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CANADA

Methodology

FIXED CAPITAL FLOWS AND STOCKS MANUFACTURING

CANADA 1926-1960

DOMINION BUREAU OF STATISTICS

Business Finance Division

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Published by Authority of
The Minister of Trade and Commerce

February 1967
6606-517

Price: $2.50

ROGER DUHAMEL, F.R.S.C., Queen's Printer and Controller of Stationery, Ottawa

PREFACE

This report presents a review of the concepts, sources and methods used in estimating fixed capital flows and stocks in Manufacturing in Canada for the years 1926 to 1960. It also contains an analysis of the data obtained as well as a partial set of estimates extracted from *Fixed Capital Flows and Stocks, Manufacturing, Canada, 1926-1960 – Statistical Supplement,* (DBS Catalogue No. 13-523) a complete presentation of tabular material which is being published **separately** but concurrently with this report. The estimates are experimental and tentative, and it is hoped that further research will result in considerable improvement in them. In this regard, it is felt that interested researchers may find them useful, and that future work by DBS in the area of capital measurement will profit by comments which these and other users may offer.

The results included in this report and the *Statistical Supplement* are part of a larger set of fixed capital flow and stock estimates relating to the whole Canadian economy. Figures for non-manufacturing industries are, at present, less satisfactory than those presented here, but it is the hope that additional estimates will be released from time to time as they are improved.

This report has been prepared by Professor T.K. Rymes now of Carleton University. Most of the data were developed by Professor Rymes when he was a member of the Bureau's Central Research and Development Staff. The work on capital stock measurement is now continuing in the Business Finance Division of the Dominion Bureau of Statistics.

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Dominion Statistician.

ACKNOWLEDGEMENT

Professor Rymes would like to record his thanks to the many officers of the Dominion Bureau of Statistics, officials of the Bank of Canada and the Economic Council of Canada and academic economists who offered constructive criticisms of a draft of this report during and after the Federal-Provincial Seminar on Capital Stock and Flow Statistics held at the end of June, 1965, in Ottawa.

He would also like to express his appreciation to Mrs. Helen Loux and Mr. Paul Boudreault of the Business Finance Division for their computational and administrative assistance.

TABLE OF CONTENTS

FIXED CAPITAL FLOWS AND STOCKS, MANUFACTURING, CANADA, 1926-60, METHODOLOGY

SECTION I

(a) Introduction

In recent years, considerable theoretical and empirical attention has been devoted to the problems of economic growth and capital accumulation. The rate of economic growth of an economy is a function of many things: the energy and inventiveness of its people; the rate of growth in population and the labour force; the rate of acquisition of new skills, training and knowledge on the part of the working population; the rate of exploitation of natural resources; the proportion of resources devoted to scientific research and development; ability and willingness to take advantage of the gains from international trade; policies of governments, and so forth. One important determinant of the rate of economic growth is the rate at which an economy adds to its stock of productive capital and the changes in the efficiency with which such a stock of capital is employed in economic production. The relationships between the rate of growth in output and the stock of productive capital in different economies are imperfectly understood. Until recently, little comprehensive work on the measurement of the stock of capital had been done and this lack of data greatly hindered the development of better knowledge about the economic growth process.

Many other questions asked about the behaviour of economic systems are related to the phenomenon of growth in the stock of capital. How important is the rate of capital formation in determining the level of economic activity? What are the relationships among rates of capital formation, expected levels and patterns of final demand, and the different stocks of capital which various industries hold in relation to their output? How is capital accumulation related to full capacity levels of output by industry? How is capital accumulation by industry related to changes in the productivity of labour by industry? And so forth.

To shed light on these and other questions of interest to the economic theorist and policy maker, reliable estimates of capital formation and stocks of capital are essential. This report presents the preliminary and experimental results of a modest probe by the Dominion Bureau of Statistics into the area of capital measurement.

Following the pioneering work of Professors Wm. C. Hood and A. Scott for the Royal Commission on Canada's Economic Prospects,[1] the Dominion Bureau of Statistics initiated the Fixed Capital Stocks Project designed to arrive at estimates of the stock of fixed reproducible tangible capital for all industries making up the business and government sectors of the Canadian economy. In this report and in the accompanying *Statistical Supplement*, results are presented for only those Canadian Manufacturing industries shown in Section I, Table 1. It is hoped that in the future the results of the Project will be available for all Canadian industries at the level of industrial detail shown in Section I, Table 2. At present, resource limitations prevent the presentation of estimates for the entire economy. It was thought, however, that as a first step, the estimates for Canadian Manufacturing industries should be made available for critical comment and use by interested researchers.

[1] Wm. C. Hood and A. Scott, *Output, Labour and Capital in the Canadian Economy*, A Study for the Royal Commission on Canada's Economic Prospects (Hull; Queen's Printer, 1957).

TABLE 1. Capital Flow and Stock Estimates, Manufacturing Division Industries

1948 DBS Standard Industrial Classification Code Number	Major Group or Combined Major Groups
200-228	Food and Beverage Industries
230, 236-239, 241-249	Combined Tobacco and Tobacco Products, Rubber Products and Leather Products Industries[1]
251-269	Textile Products (Except Clothing) Industries
270-279	Clothing (Textile and Fur) Industries
281-289	Wood Products Industries
292-299	Paper Products Industries
301-309	Printing, Publishing and Allied Industries
311-329	Iron and Steel Products Industries
330-339	Transportation Equipment Industries
341-349, 351-359	Combined Non-ferrous Metal Products and Electrical Apparatus and Supplies Industries[1]
361-369, 373-379	Combined Non-metallic Mineral Products and Products of Petroleum and Coal Industries[1]
380-389	Chemical Products Industries
391-399	Miscellaneous Manufacturing Industries

[1] Owing to data problems outlined later in this document, it has not proved possible to prepare capital flow and stock estimates for all seventeen of the 1948 DBS Standard Industrial Classification Major Groups in Manufacturing.

TABLE 2. Planned Capital Flow and Stock Estimates, Canadian Industries (Excluding Manufacturing)

1948 S.I.C. Industrial Division Code Number	Major Group	Three-digit Sub Group
000-079 Agriculture		
080-089 Forestry		
091-095 Fishing and Trapping[1]		
101-159 Mining, Quarrying and Oil Wells		
404-439 Construction Industry		
501-549 Transportation, Storage and Communication		
501-519	Transportation	
505, 514		Motor transport industries
508		Railway transport
510		Urban and suburban transportation systems
516		Water transport and services
519		Other transport[2]
524-527	Storage	
543-549	Communication	
543		Radio and television broadcasting
547		Telephones
602-609 Public Utility Operation		
602-604		Electric light and power and gas distribution industries
608		Water and sanitary services industries
701-799 Trade		
802-809 Finance, Insurance and Real Estate (Including Housing)		
901-949 Service		
901-909	Community or Public Service	
901		Education
903		Health
904		Religion
906-909		Welfare institutions
911-919	Government Service	
911-916		Dominion Government Departments
917-919		Provincial and Municipal Government Departments
922-949	Recreation Service Business Service Personal Service	Designated as Commercial Services Industry

[1] No estimates of gross fixed capital formation are made for the Hunting and Trapping Major Group.
[2] Includes Air transport, Oil pipelines, Gas pipelines and Toll highways and bridges.

(b) Nature of the Estimates

In the Canadian social accounting framework, domestic gross fixed capital formation is defined as expenditures by businesses and government on new construction and new machinery and equipment.[2] Government fixed capital formation includes expenditures on new non-rental housing while expenditures by persons for new residential dwellings and selected related expenditures are considered as part of business gross fixed capital formation since individuals, in their capacity as home-owners, are treated in the National Accounts as business enterprises.

The "gross" concept of fixed capital formation indicates that no allowance is made for the fact that existing capital goods undergo declines in value through wear and tear, demolition, aging and obsolescence. Estimates of the amount by which fixed capital goods in the Manufacturing industries decline in value each year through depreciation and obsolescence are presented in this report.

[2] DBS Catalogue No. 13-502 *National Accounts Income and Expenditure 1926-1956*, Part II The Conceptual Framework of the National Accounts. The broader concept, gross capital formation, would encompass, as well, the value of the physical change in inventories of final goods, goods-in-process and raw materials.

Such estimates are designated capital consumption allowances. If these latter estimates are deducted from those for gross fixed capital formation, the result is designated net fixed capital formation. Generally speaking, estimates of this "net" concept of fixed capital formation purport to measure the increase or decrease in market value of the stock of fixed capital goods with the value of new additions to the stock being offset by the decline in value of the existing stock through "normal economic" processes of depreciation and obsolescence. Existing capital goods suffer partial or complete loss in market value through conscious demolition and destruction by the eccentricities of Nature and war. Should such loss in value be counted as part of capital consumption? For purposes of estimating the stock of capital such disappearance of capital goods should, wherever possible, be recorded. While charged off against the stock, they could, however, be treated as a capital loss rather than capital consumption. If this treatment is adopted, such losses would not be deducted from gross fixed capital formation and net fixed capital formation, hence Net National Product and National Income would be correspondingly higher than if such losses were treated as part of capital consumption allowances. This problem illustrates one of the ways in which the "net" concept of fixed capital formation bristles with rather formidable conceptual and measurement difficulties. These are outlined in the Sections of this report dealing with concepts, methods of measurement and data sources.

For the aggregate economy, only expenditures on new capital goods – new, that is, to the domestic economy – are recorded as part of gross fixed capital formation. Hence, purchases by governments and businesses of already existing fixed capital goods (including land and other tangible non-reproducible natural agents) from other Canadian governments and businesses are not treated as part of aggregate gross fixed capital formation. Imports of already existing fixed capital goods are, however, included since they are new to the domestic economy.

In this report, only a part of business gross fixed capital formation is considered, namely, that part which arises within Canadian Manufacturing industries. In Canada, total business gross fixed capital formation is currently derived by summing the recorded capital expenditures of the Canadian business sector. Each individual industry's estimated capital expenditures rests on the same conceptual basis as the total. For the purpose of obtaining the type of estimates presented in this report, such a conceptual basis for individual industry estimates of gross fixed capital formation is not that which is required. For an individual industry the more relevant concept of capital formation would be purchases less sales of new and existing fixed capital goods. It was not possible, however, to alter in any satisfactory manner the historical record of gross fixed capital formation by industry to meet this desired change in concept. Thus, the estimates of gross and net fixed capital formation and capital consumption allowances provided here for the thirteen combined Major Groups in Manufacturing follow the same conceptual basis as that of the Canadian National Accounts.

In addition to what may be called fixed capital flow data, this report also presents estimates of the gross and net **stock** of fixed tangible reproducible capital for Canadian Manufacturing industries. The gross stock of fixed capital estimates purport to give the estimated value of the existing stock of plant and machinery and equipment in terms of what it would cost to replace the existing stock with new capital goods of similar types. The net stock of fixed capital estimates purport to give the estimated value of the existing stock as it stands. In this latter concept, an attempt is made in the measurement procedure to account for the fact that the market would place less than new values on that part of the existing stock which is not new, which has suffered some wear and tear and decrease in technical efficiency and which is in a state of being superseded by technically superior and less costly similar capital goods.

It must be recognized that such valuations, whether gross or net, are necessarily crude and arbitrary. Yet it is felt that if the assumptions involved in the measurement procedure are fully spelt out, if the basic data are relatively satisfactory and if the estimating processes are consistent and can be accepted as reasonable, fairly reliable and analytically useful stock estimates can be produced. It is safe to say, however, that the absolute level of the stock estimates are probably less defensible than the secular and cyclical trend shown by them. Again, the many conceptual and statistical difficulties involved in the estimation of fixed capital stocks are more fully outlined and examined in the Sections of this report on concepts and methods of measurement.

The capital flow and stock data presented in this report are expressed in current, constant 1949 and 1957 and original cost dollars. In current dollars, the flows and stocks are valued in terms of the average prices of capital goods which hold in each of all the years 1926 to 1960. For example, current dollar gross fixed capital formation in the Food and Beverages Major Group in the year 1960 is expressed in terms of the estimated amounts which the various establishments in the industry had to pay for new capital goods in 1960. Similarly, 1959 current dollar gross fixed capital formation is expressed in terms of the average prices of new capital goods which prevailed in 1959, and so on for all years.

Current dollar capital consumption allowances express the amount by which the existing stock declined in value in 1960 through depreciation and obsolescence when the existing stock is valued in terms of the average prices of capital goods which existed in 1960. Again, in 1959, current dollar capital consumption allowances are expressed in terms of the average prices of capital goods prevailing in 1959, and so on for all years.

Hence, current dollar net fixed capital formation in 1960 expresses the net additions to the stock with such additions again being valued in terms of the average prices of capital goods in 1960, and so on.

The current dollar mid-year gross stock of fixed capital in the Food and Beverages Major Group values the existing stock of capital goods in terms of the average prices of new capital goods prevailing in 1960. Once again, in 1959, the current dollar mid-year gross stock is expressed in terms of the average prices of new capital goods which held true in 1959, and so on for all years.

The 1960 current dollar net stock of capital represents an estimate of the value of the existing stock in terms of the market prices in 1960 of the existing new and used fixed capital goods in the stock.

For constant 1949 and 1957 dollar valuations, similar definitions may be employed. Thus, constant 1949 dollar gross fixed capital formation in the Food and Beverages Major Group in 1960 represents the value of new capital goods purchased by establishments in that industry in 1960 in terms, not of the average prices of new capital goods which prevailed in 1960, but rather the average prices which held in 1949. Similarly, constant 1949 dollar gross fixed capital formation in 1959 is expressed, not in terms of the average prices of new capital goods in 1959 but in 1949, and so on for all years. The remaining constant dollar definitions of the capital flow and stock estimates can be similarly reworded to express them in 1949 or 1957 dollars.

The valuation of capital formation and capital stock in terms of original cost dollars requires further explanation. In original cost, the flow and stock data are expressed in terms of the average prices of capital goods which pertained during the years when capital goods first entered the stock. For example, original cost gross fixed capital formation in the Food and Beverages Major Group for 1949 and 1960 represents values of capital expenditures by the industry in 1949 in terms of the average price of new capital goods in 1949 and in 1960 in terms of the average prices of new capital goods in 1960. Thus, current dollar gross fixed capital formation and original cost gross fixed capital formation are identical. When the average prices of capital goods change over time, the concept "gross fixed capital formation" is the only capital flow estimate for which current dollar and original cost evaluations remain identical.

Original cost capital consumption allowances in 1960 express the amount by which the existing stock has declined in value in the terms of the **original** prices which were attached to the various capital goods when they entered the stock over the relevant historical period. The fact that such a valuation of capital consumption is expressed in terms of a heterogeneity of prices means that very little conceptual significance can be attached to original cost net fixed capital formation.

The original cost gross stock of capital represents the stock of existing capital valued in terms of their respective prices which held when they entered the stock. Again, little economic meaning can be attached to such stock estimates because of the mixture over time of the prices at which the stock is being valued. Similarly lacking in economic meaning is the value of the net stock in terms of original cost since it merely represents the gross stock less the accumulated capital consumption allowances charged off over time against the existing stock with both stock and capital consumption allowances expressed in original prices.

For most purposes of economic analysis and research, the fixed capital flows and stocks, valued in terms of current and constant dollars, have conceptual meaning, though, admittedly, difficulties stand in the way of interpreting these estimates as well. The fixed capital flows and stocks valued in terms of original cost dollars by themselves have very limited meaning but they can be employed for some analytical and checking purposes.

The estimates expressed in original cost have some comparability to the fixed asset flow and stock data found on most corporation balance sheets. Few corporations present estimates of depreciation and value of fixed assets with systematic year-to-year adjustments for the changing prices of capital goods. For a corporation which never revalued its fixed assets and which never bought second hand assets, then its fixed assets flow and stock data would be comparable to the original cost data presented in this report. However, since the book value of corporation fixed assets reflect periodic revaluations and acquisition of second hand goods, corporate balance sheet and revenue statement of fixed asset data cannot strictly be compared to the original cost data presented here.

An example will help to elucidate these different valuations. Assume for simplicity that identical machines which remain in productive economic service for three years are being considered. A new machine in (say) the year 1949 was worth $10, a one-quarter year old machine $9.17, a year old machine $6.67, a two-year old machine $3.33 and a two and three-quarters year old machine was worth $0.83.[3] Machines have a final value of zero. The average prices of all ages of machines are rising by ten per cent a year. Ten machines are purchased evenly over each year. The number of machines thus remains fixed at thirty and the average age of machines constant at one and one-half years. The relevant data for this balanced stock of machines is given in Section I, Table 3.

[3] In this example, machines remain technically efficient for 3 years and then collapse, subject to sudden death. The rate of interest at which future gross profits accruing to each machine is discounted is zero. For a balanced-age stock of machines subject to sudden death and where the discount rate is positive, the market value of the stock of machines should be greater than 1/2 the value of such machines all valued at new machine prices. See J.E. Meade, *A Neo-Classical Theory of Economic Growth*, Revised second edition, 1962, Chap. 9 and Appendix III.

TABLE 3. Exemplary Illustration of Different Valuations of Fixed Capital Flows and Stocks

Year	Basic data					
	(1)	(2)	(3)	(4)	(5)	(6)
	Number of machines purchased	Average market prices of machines of different ages				
		New	One-quarter year old	One year old	Two years old	Two and three-quarters year old
		dollars				
1948	10	9.09	8.33	6.06	3.03	0.76
1949	10	10.00	9.17	6.67	3.33	0.83
1950	10	11.00	10.08	7.33	3.67	0.92
1951	10	12.10	11.09	8.07	4.03	1.01
1952	10	13.31	12.20	8.88	4.44	1.11

Five machines at an average age of 0.25 years
Ten " " " " " " 1 year
" " " " " " " 2 years
Five " " " " " " 2.75 "

$$\text{Average age} = \frac{5(0.25) + 10(1) + 10(2) + 5(2.75)}{30} = 1.50 \text{ years}$$

Year	Valuations					
	Gross fixed capital formation			Mid-year gross stock of machines		
	Current dollars	Original cost dollars	Constant 1949 dollars	Current dollars	Original cost dollars	Constant 1949 dollars
1948	90.90	90.90	100.00	273	237	300
1949	100.00	100.00	100.00	300	261	300
1950	110.00	110.00	100.00	330	287	300
1951	121.00	121.00	100.00	363	316	300
1952	133.10	133.10	100.00	399	348	300
	Mid-year net stock of machines			Capital consumption allowances		
1948	136	124	150	91	79	100
1949	150	136	150	100	87	100
1950	165	150	150	110	96	100
1951	182	165	150	121	105	100
1952	200	182	150	133	116	100

Since the average price of new machines in 1949 was \$10. it can be readily seen that a stock of thirty machines valued in terms of what it would cost to replace such machines new in 1949 dollars (i.e., the mid-year gross stock of machines in constant 1949 dollars) must always be \$300. Similarly, at the mid-point of any year, five machines will have an average age of one-quarter year, ten will be an average of one year old, ten will be an average of two years old, while five will have an average age of two and three-quarter years. Given this constant age distribution of machines and the market prices of existing assets in 1949, the net stock expressed in 1949 dollars (i.e., the mid-year net stock of machines in constant 1949 dollars) will always be \$150.

The current dollar valuations will be identical to the constant 1949 dollar valuations only for the year 1949. In 1952, the current dollar gross stock will have risen to \$399. (30 machines x \$13.31) while the net stock will be \$200. (5 machines x \$12.20 + 10 machines x \$8.88 + 10 machines x \$4.44 + 5 machines x \$1.11).

The original cost valuations for 1952 are obtained by summing current dollar expenditures over the last three years ($\frac{\$133.10}{2}$ + \$121. + \$110. + $\frac{\$100.}{2}$) to yield a mid-year gross stock of \$348. and by summing the as yet to be written off original cost of existing assets (5 machines at \$12.20 + 10 machines at \$8.07 + 10 machines at \$3.67 + 5 machines at \$0.83) to yield a mid-year net stock of \$182.

As can be readily seen from Section I, Table 3, failure to account for the rising prices of machines when depreciation or capital consumption allowances are being estimated leads to a serious understatement of the decline in market value of the machines. A faster rate of write-off than is implied in the assumed three-year average economic life would be necessary to raise the original cost estimates of capital consumption to those estimated on the basis of the current replacement cost of machines.

Section I, Table 4, indicates the various time series data and valuations that are presented in this report and in the accompanying *Statistical Supplement.* This is, of course, only a partial list of the data available from the work sheets of the DBS Fixed Capital Stocks Project. End-year stock data, estimated withdrawals from stocks, implied age distribution data and Laspeyres and Paasche price indexes of fixed capital goods by industry may also be made available.

TABLE 4. Time Series Data Manufacturing Industries, 1926-60

	Current dollars	Constant dollars		Original cost dollars
		1949	1957	
Capital Flows:				
Gross fixed capital formation	x	x	x	x
Net fixed capital formation	x	x	x	x
Capital consumption allowances	x	x	x	x
Capital Stocks:				
Mid-year gross stock	x	x	x	x
Mid-year net stock	x	x	x	x

(c) Uses of the Estimates

A better grasp of the meaning of the different valuations is possible when some of the uses to which the estimates will probably be put is reviewed.

One recent empirical endeavour which has kindled considerable interest is the measurement of technological progress for the aggregate economy and at industry levels of detail. Generally speaking, it is recognized that the rate of growth of output is some function of (a) the rate of growth of the various economic inputs and (b) the rate of increase in efficiency with which the inputs are combined in economic production. The latter part, under various simplifying assumptions, may be regarded as the rate of technological progress. If measures of the rate of growth of output and the various inputs are available, then by weighting the various growth rates of the inputs together and subtracting them from the rate of growth of output, a rough measure of the rate of technological progress may be obtained.[4] If the measure of output in constant dollars being used is gross of capital consumption (e.g., gross domestic product at factor cost), then three measures of the rate of growth of capital input may be used. Some investigators[5] use the rate of growth of the gross stock of capital in constant dollars while others would recommend two measures of the rate of growth of the capital inputs: the net stock of capital and capital consumption allowances in constant dollars.[6]

The many conceptual and statistical problems which impede the reliable measurement of technological change are not yet, however, satisfactorily resolved. Among these problems is the fact that the stock of capital will only be "fully" utilized in periods of peak economic activity. The level of optimum utilization of the services of the stock of capital is a difficult concept to quantify. Nonetheless, in much the same way as the available labour force is not fully employed in periods of less than peak or high levels of sustained economic activity, so it may be said that the available capital input is from time to time not fully employed. Certain investigators[7] have attempted to adjust existing stock estimates, which measure the stock of capital which is available for economic production, to a level indicating the intensity of use or rate of utilization of the stock. Since the decline in the technical efficiency of a capital good over time is likely to be less than the decline in its market value, it would appear more reasonable to use gross stock rather than net stock estimates in analysis of this kind. Indeed, the work on the measurement of stocks of capital by industry leads naturally into

[4] The literature on this general topic is now substantial. See the pioneering article by R.M. Solow, "Technical change and the aggregate production function", *Review of Economics and Statistics* XXXIX, August 1957, pp. 312-320. See also, J.W. Kendrick, *Productivity Trends in the United States:* (Princeton University Press for the NBER, 1961); E.F. Denison, *The Sources of Economic Growth in the United States* (Washington: Committee for Economic Development 1962), E.D. Domar *et al.*, "Economic growth and productivity in the United States, Canada, United Kingdom, Germany and Japan in the Post-War Period", *Review of Economics and Statistics* XLVI, Dec. 1964, pp. 33-40 and N.H. Lithwick, "Labour, capital and growth—the Canadian experience," *Growth and the Canadian Economy,* T.N. Brewis *et al.* (Ottawa: Carleton University, 1965).

[5] See Denison, *op. cit.*

[6] See, for example, E.D. Domar, "On the measurement of technological change", *Economic Journal,* LXXI, Dec. 1961, pp. 709-729. It should be noted here that to round out the capital input measures, estimates of the stock of inventories should also be available.

[7] See R.M. Solow, *op. cit.*

the measurement of capacity levels of output and the measurement of the rate of less than full capacity utilization of the available stock of capital.[8]

Economic theorists and policy makers are particularly interested in obtaining accurate forecasts of future levels of capital formation. Many factors, especially expectations about the future profitability of intended capital purchases, enter investment decisions. Different industries use different techniques of production of varying capital intensities and, given overall expectations about the future profitability of investment, different patterns of expected demand will most likely result in different investment programmes for both the replacement of capital goods nearing the end of the useful lives and new additions to the stock. Thus, another use to which capital stock estimates by industry will undoubtedly be put is attempted improvement in the short and long-run forecasts of future capital goods purchases by businesses.[9]

A recent investigation in the United States has indicated that there is evidence to suggest that capital stock changes (both accumulation and decumulation) by industry are sensitive to changes in the rate of return to capital by industry.[10] In order to obtain improved estimates of the rate of return to capital it is necessary to have estimates of the net stock of capital in current dollars. Estimates of the net stock of capital in terms of book value can give misleading results.

In the Canadian National Accounts, the present estimates of capital consumption allowances are obtained from *Taxation Statistics* data compiled by the Department of National Revenue and from a wide variety of additional procedures for the unincorporated business enterprise sector (including housing) and for government buildings.[11] While for housing, government buildings and selected unincorporated businesses, an attempt is made to place the estimates of capital consumption allowances on current replacement basis, for the corporate sector, the estimates are based almost entirely on the data of capital cost allowances reported by corporations to the Department of National Revenue. These latter data reflect the fact that fixed assets, against which the capital cost allowances are charged, are expressed in terms of book values and that write-off rates permitted under the Income Tax Act may bear little relationship to the actual decline over time in the market value of fixed assets or to the length of time assets remain in profitable use.

Hence, the National Accounts estimates of capital consumption allowances are not on a uniform basis of valuation and are most imperfect approximations to the decline in value of existing fixed capital goods. They cannot be used to derive satisfactory estimates of net fixed capital formation or net National Product. Thus, though present estimates of National Income exclude unrealized capital gains or losses resulting from the effects of price changes on the book value of inventories, they overstate or understate returns to fixed capital to the extent that actual capital consumption exceeds or is less than presently estimated capital consumption.[12] The constant and current dollar capital consumption allowances presented in this report represent, it is felt, a considerable improvement over what has previously been used. When such estimates are available for all the industries making up the business and government sectors, then it will be possible to make improved estimates of net fixed capital formation for the entire economy and net National Product.[13]

As a check on the validity of the estimates presented here and for some analytical purposes as well, estimates of the gross and net stocks of fixed capital in terms of original cost have also been prepared. As already indicated, these estimates can be compared with the book value of fixed assets for industry in which such balance sheet data are readily available. With careful interpretation of the

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[8] In this connection, see D. Creamer, *Capital Expansion and Capacity in Post-War Manufacturing*, and *Recent Changes in Manufacturing Capacity*, U.S. Conference Board Studies in Business Economics Nos. 72 and 79 (New York: National Industrial Conference Board; 1961 and 1962) and A. Phillips, "An appraisal of measures of capacity", *American Economic Review*, May 1963, pp. 275-292.

[9] More elaborately, the levels of output which Canadian industries may be expected to reach in future years will be partially determined by the supply of capital goods which they can obtain for use in production. Hence, any forecast of aggregate final demand by consumers, government and non-residents directed against Canadian industry must take into account the level of investment which will be required to facilitate such a level of output. Estimates of future levels of output by industry, given an expected pattern of final demand, can be derived by means of input-output analysis. Badly needed, however, are estimates of output-stock of capital relationships so that such input-output analysis can be improved by taking into account the required levels of fixed investment required for the forecasted levels of industry output. See D.A. White, *Business Investment to 1970* Economic Council of Canada Staff Study No. 5 in which investment projections to 1970, based on the capital stock estimates presented in this report, are outlined.

[10] See, G.J. Stigler, *Capital and Rates of Return in Manufacturing Industries* (Princeton: Princeton University Press for the NBER, 1963).

[11] See DBS Catalogue No. 13-502 *National Accounts Income and Expenditure 1926-1956*, pp. 153-155 for a review of the procedures used in estimating capital consumption allowances by industry.

[12] See S.A. Goldberg and F.H. Leacy, "The National Accounts: Whither Now?" The *Canadian Journal of Economics and Political Service*, XXII, Feb. 1956, pp. 73-91.

[13] When current dollar capital consumption allowances become available for the entire economy, then an adjustment to the published estimate of National Income, similar to the Inventory Valuation Adjustment, may be made. Suppose current dollar capital consumption allowances for the year 1960 were greater than the estimates of capital consumption allowances now in use. The current dollar capital consumption allowances would be substituted for those now available, and a negative adjustment, a "Depreciation Valuation Adjustment", would be made to National Income. This adjustment should be distributed amongst components of National Income which represent returns to capital. In fact, it will be extremely difficult to effect the distribution between corporation profits before taxes and the net income of non-farm unincorporated business enterprises since a breakdown by "form of organization" of the current dollar capital consumption allowances estimates by the DBS Fixed Capital Stocks Project is not, at present, feasible.

inevitable differences in the estimates, a check can be directed against some of the procedures used in constructing the estimates presented here. If for a particular industry, the estimates presented here appear reasonable, then the relationship between the DBS Fixed Capital Stocks Project's estimates of capital stock and capital consumption allowances in the various current, constant and original cost dollars can be used to revalue the book value estimates of fixed assets and depreciation provided by primarily incorporated industries. For instance, the exemplary data shown in Section I, Table 3, can be used to derive "implicit revaluers" between current, constant and original cost dollar estimates of the gross stock of capital. Such "implicit revaluers" could then be used to adjust book value gross fixed assets estimates provided by the various firms making up the industry to current and constant dollar levels.[14]

[14] Again, it must be pointed out these checks and "implicit revaluers" are subject to a number of difficulties. In the Section of this report dealing with the quality of the estimates presented here, these difficulties are more thoroughly canvassed.

A number of additional uses of fixed capital flow and stock data will no doubt occur to the reader.[15] It is clear, however, that such estimates represent an invaluable addition to our stock of knowledge about the economic process. Yet, in order to appreciate all the pitfalls, ambiguities and inaccuracies involved in capital measurement, a complete survey of the procedures involved in the measurement process, the statistical difficulties encountered, the lack of relevant data and the conceptual or theoretical drawbacks to such estimates must be provided. A survey of the problems is provided in Sections III and IV of this report.

[15] Within the broader context of National Balance Sheet estimation and National Wealth measurement, Goldsmith and Lipsey demonstrate the use of current and constant dollar capital stock estimates in examining the changing structure of assets held by individual sectors in the economy and the influence of the changing prices of "price-sensitive" assets (including fixed capital goods) on the 'real' net worth of the various sectors. See R.W. Goldsmith and R.E. Lipsey, *Studies in the National Balance Sheet of the United States* (Princeton: Princeton University Press for the NBER, 1963), Vol. 1, pp. 9-13.

SECTION II

General Description of the Estimates

(a) Introduction

Manufacturing is an important segment of the Canadian domestic economy. From 1946 to 1960, some 28 per cent of total gross domestic factor income originated in Manufacturing.[1] In terms of constant 1949 dollars, whereas Gross Domestic Product at factor cost for the total economy rose from $13.4 billion in 1946 to $24.2 billion in 1960, in Manufacturing, "real output" rose from $3.5 billion to $6.6 billion.

In this Section of the report, the movements and trends in fixed capital flows and stocks in Manufacturing will be examined over the period 1946 to 1960. Four prefatory comments are necessary. First, as indicated in the introductory Section, estimates for the entire economy are not yet available. Second, it is felt that estimates shown in Section VI (and those presented in the *Statistical Supplement* referred to in the Preface) for the period approximately 1946 to 1960 are more precise than the estimates covering the period 1926 to 1945 for reasons outlined in the Section on sources and methods. The analysis here is conducted with the estimates of the more recent period but interested researchers may wish to extend their analysis back to 1926. Third, the data presented in this report do not extend forward beyond the calendar year 1960. The basic problem, outlined more fully in Section IV (d) on sources and methods, is that the industrial classification which underlies the basic capital formation estimates was changed in 1960. Experimentation and further research is required before the discontinuities thus introduced in the fixed capital flow and stock data can be overcome and the various estimates brought up to date. Fourth, because part of the basic data lying behind the estimates presented here is unsatisfactory — that dealing with the "average economic lives" of fixed capital goods — it was decided to prepare the estimates using a range of "lives". Thus, for each Major Group for (say) the mid-year net stock of capital in constant 1949 dollars, five different estimates are available. Part of the research connected with this project was to see how sensitive the different fixed capital flows and stocks estimates were to changes in assumed "average economic lives".

(b) Fixed Capital Flows in Manufacturing

In terms of current dollars, total gross fixed capital formation in Manufacturing rose from $337 million in 1946 to $1,201 million in 1960. For construction-type new capital goods, expenditures in this sector of the economy rose from $132 million to $355 million, while for machinery and equipment including capital items charged to operating expenses, expenditures rose from $205 million to $846 million. Because of depressed conditions of economic activity in 1960 (the percentage of the labour force unemployed stood at 7.0 while real output declined slightly in Manufacturing), it is better to compare 1946 with 1957, though the latter year was one of particularly intense activity in fixed capital formation. The level of gross investment in Manufacturing, both in current and constant 1949 and 1957 dollars, reached a peak in 1957 to which it had not returned by 1960. A similar trend is shown in Section II, Table 1, where a comparison of current, constant 1949 and 1957 dollar estimates of gross fixed capital formation in Manufacturing is made.

[1] Data from DBS Catalogue No. 13-502 *National Accounts Income and Expenditure 1926-1956*, Table 21, DBS Catalogue No. 13-201, *NAIE 1962*, Table 21 and DBS Catalogue No. 13-201 *NAIE 1963*, Table 21. Over this period the share is very stable with a mean share of 0.277 and coefficient of variation ($\frac{\sigma}{\bar{x}}$) of 0.05.

TABLE I. Gross Fixed Capital Formation in Manufacturing

	Construction	Machinery and equipment[1]	Total
	millions of current dollars		
1946	132	205	337
1957	520	959	1,479
1960	355	846	1,201
	millions of constant 1949 dollars		
1946	175	268	443
1957	357	675	1,032
1960	228	556	784
	millions of constant 1957 dollars		
1946	254	376	630
1957	520	959	1,479
1960	331	786	1,117

[1] Including capital items charged to operating expenses.

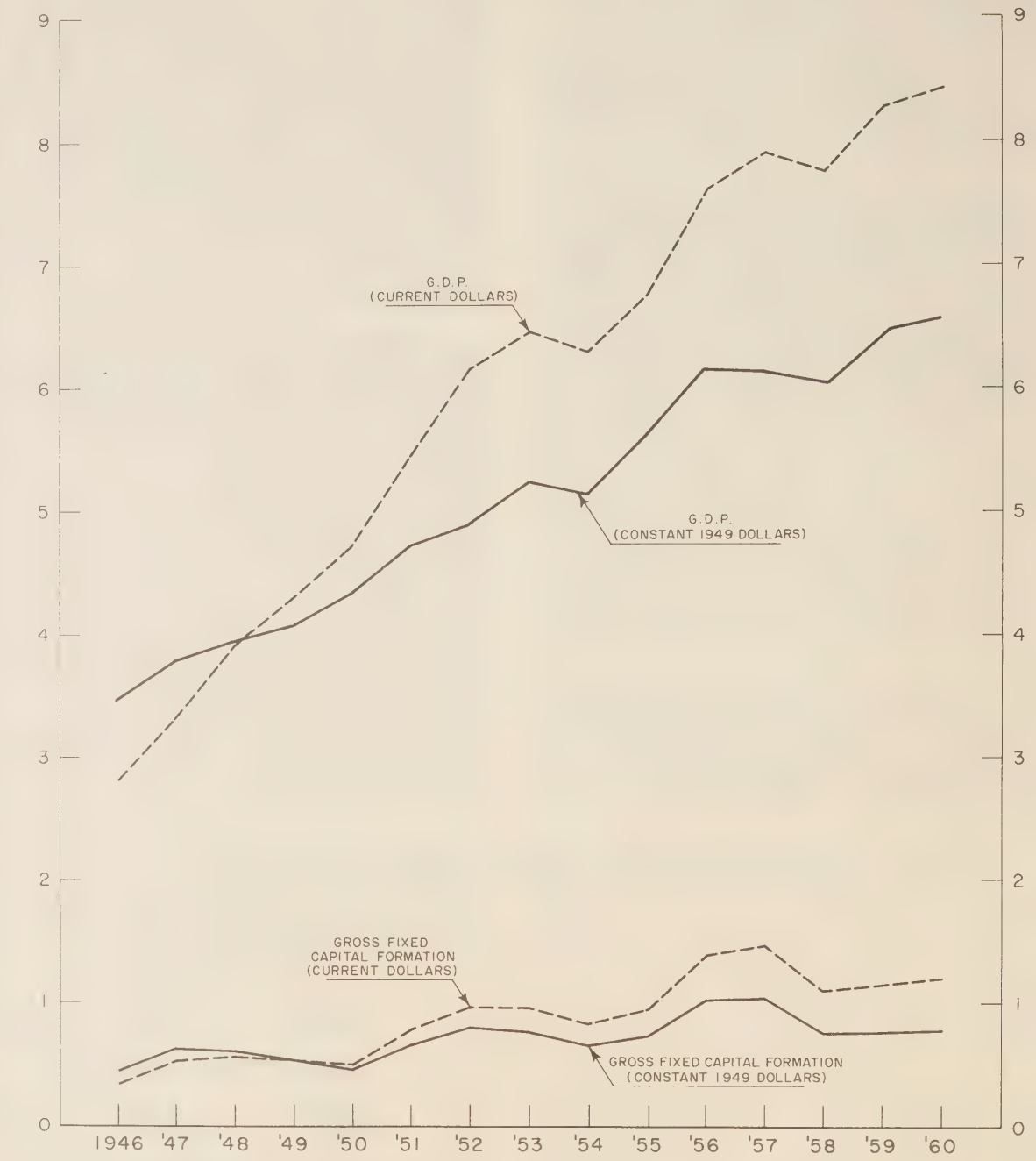
Source: Section VI, Set I, Tables 1, 2 and 3.

SECTION – II

Chart – I

OUTPUT AND GROSS FIXED CAPITAL FORMATION IN CANADIAN MANUFACTURING 1946 – 1960

(BILLIONS OF DOLLARS)



1. Current dollar gross domestic product at factor cost in Canadian Manufacturing is taken from DBS Catalogue No. 13-502 "National Accounts Income and Expenditure 1926-1956" T. 21 and following annual publications.
2. Constant 1949 dollar gross domestic product at factor cost is obtained by using data published in DBS Catalogue No. 61-005 (Supplement), "Annual Supplement to the Monthly Index of Industrial Production," Table 2. It should be noted that the weighting pattern published in 61-005 yields a gross domestic product in manufacturing which is not quite the same as that given in note 1 above. The discrepancy arises because the current dollar series is based on a mixture of statistical reporting units whereas the constant dollar series is based on the establishment as the reporting unit in Manufacturing.
3. The current and constant 1949 dollar series on gross fixed capital formation are obtained from the tables in Section VI of this report.

TABLE 2. Gross Fixed Capital Formation in Manufacturing

	Construction	Machinery and equipment[1]	Total
	percentage distribution of current dollars		
1946	39	61	100
1957	35	65	100
1960	30	70	100
	indexes 1949 = 1.00 of constant 1949 dollars		
1946	1.11	0.71	0.83
1957	2.27	1.78	1.93
1960	1.45	1.46	1.46
	indexes 1957 = 1.00 of constant 1957 dollars		
1946	0.49	0.39	0.43
1957	1.00	1.00	1.00
1960	0.64	0.82	0.76

[1] Including capital items charged to operating expenses.

Source: Section II, Table 1,

There is no evidence to suggest that, in terms of current dollar expenditures, construction-type gross fixed capital formation has not gained as rapidly as that for machinery and equipment. (See Section II, Table 2). When the analysis is conducted in terms of constant dollars, particular caution must be exercised with respect to drawing inferences from different rates of growth of capital expenditures in construction on the one hand, and machinery and equipment on the other; for, as pointed out in Section IV, deficiencies in the price indexes may cause the constant dollar expenditure on construction to be biased downwards in relation to the constant dollar expenditure on machinery and equipment. (See also Section II, Chart 2).

When analysing trends in net fixed capital formation and capital consumption allowances, one should consider the arbitrariness of the "lives" of capital goods used in this report. Data on the number of years which capital goods remain in productive service are extremely scarce in Canada. In view of this, five sets of "life" data for fixed capital goods by combined Major Groups in Manufacturing have been used to see how much the resulting capital flow and stock estimates vary when different "lives" are used. In this report, the "straight-line" method of depreciation is used to obtain estimates of capital consumption allowances and hence net fixed capital formation. Thus, these capital flow estimates will differ as different "lives" are used.

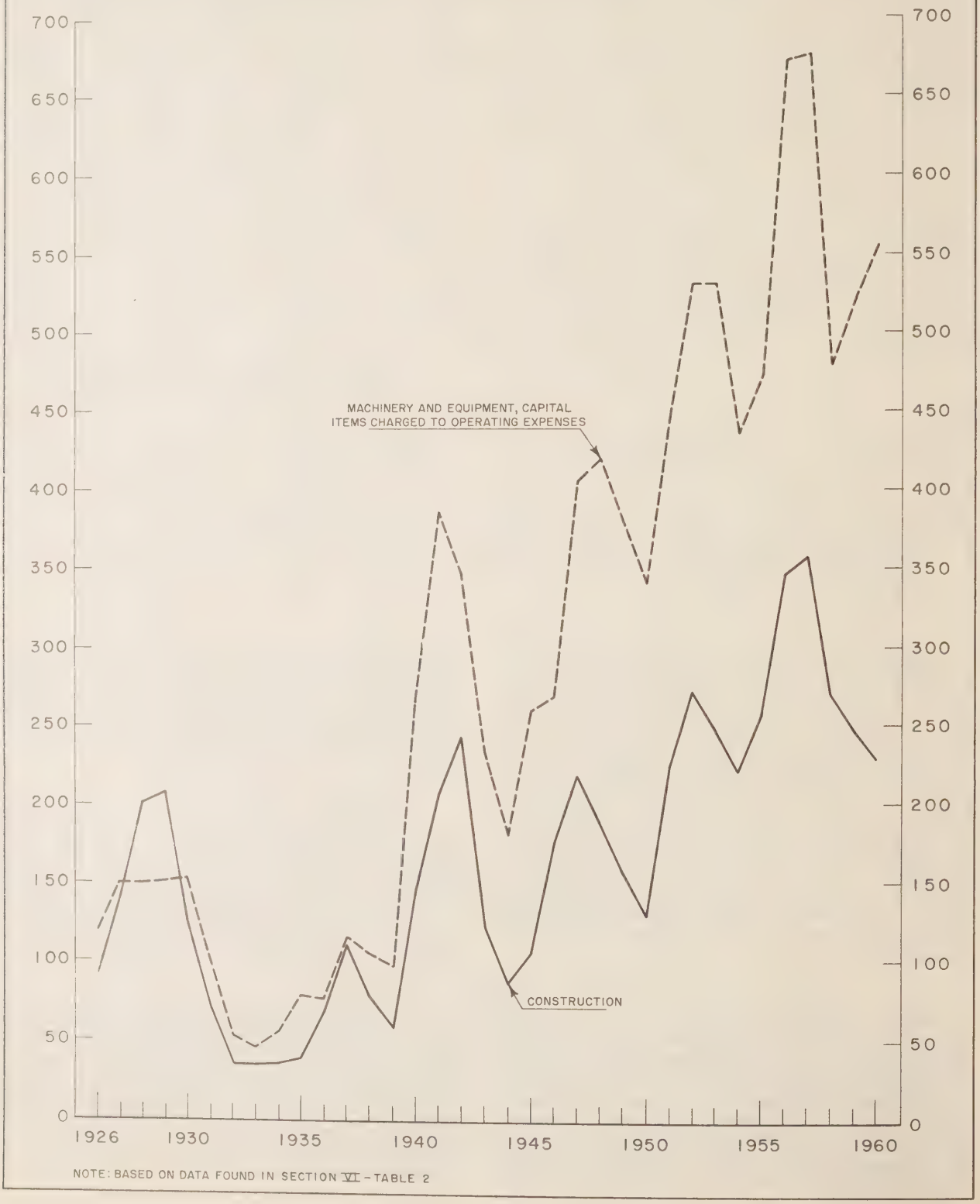
The different "life" estimates are described in Section V. In general, the estimates presented in Section VI represent the initial "lives" used to prepare the estimates and are the mid-points of the range of "lives" used. In the *Statistical Supplement* the latter are reproduced as Set I of the estimates and are followed by the longer "lives" in Sets II and III and the shorter "lives" in Sets IV and V.

In Section II, Tables 3 and 4, estimates of total net fixed capital formation and capital consumption allowances in current, constant 1949 and 1957 dollars are presented for the five sets of "lives", ranging from Set III (the longest "lives") to Set V (the shortest "lives") for the years 1946, 1957 and 1960. In Section II, Tables 5 to 8, the same estimates are presented for the construction and machinery and equipment components.

SECTION – II

Chart – 2

GROSS FIXED CAPITAL FORMATION, TOTAL MANUFACTURING
1926 – 1960
(MILLIONS OF CONSTANT 1949 DOLLARS)



NOTE: BASED ON DATA FOUND IN SECTION VI – TABLE 2

TABLE 3. Total Net Fixed Capital Formation in Manufacturing

	Set III	Set II	Set I	Set IV	Set V
	millions of current dollars				
1946	96	91	88	96	92
1957	877	824	817	747	682
1960	460	398	390	318	218
	millions of constant 1949 dollars				
1946	127	120	116	126	122
1957	610	573	569	520	473
1960	302	264	256	209	143
	millions of constant 1957 dollars				
1946	177	168	162	176	170
1957	877	824	817	747	682
1960	430	372	365	298	205

TABLE 4. Total Capital Consumption Allowances in Manufacturing

	Set III	Set II	Set I	Set IV	Set V
	millions of current dollars				
1946	241	246	249	241	245
1957	601	655	661	731	796
1960	740	802	810	883	982
	millions of constant 1949 dollars				
1946	316	323	327	316	321
1957	422	459	463	513	559
1960	481	522	527	574	640
	millions of constant 1957 dollars				
1946	452	462	468	453	460
1957	602	655	662	731	796
1960	686	745	752	819	911

TABLE 5. Net Fixed Capital Formation in Manufacturing
Construction Component

	Set III	Set II	Set I	Set IV	Set V
	millions of current dollars				
1946	62	59	56	50	50
1957	331	323	317	307	307
1960	134	129	121	101	101
	millions of constant 1949 dollars				
1946	82	78	74	66	66
1957	228	222	218	211	210
1960	86	84	77	65	65
	millions of constant 1957 dollars				
1946	119	113	107	95	95
1957	331	323	317	307	307
1960	124	120	113	95	95

TABLE 6. Capital Consumption Allowances in Manufacturing
Construction Component

	Set III	Set II	Set I	Set IV	Set V
	millions of current dollars				
1946	70	73	76	82	82
1957	188	196	203	213	213
1960	220	226	233	253	253
	millions of constant 1949 dollars				
1946	92	97	101	109	109
1957	130	135	140	146	146
1960	142	145	150	162	162
	millions of constant 1957 dollars				
1946	135	141	147	158	158
1957	189	197	203	213	213
1960	206	211	218	236	236

TABLE 7. Net Fixed Capital Formation in Manufacturing
Machinery and Equipment Component[1]

	Set III	Set II	Set I	Set IV	Set V
	millions of current dollars				
1946	34	32	32	46	42
1957	546	500	500	440	376
1960	327	269	269	216	117
	millions of constant 1949 dollars				
1946	45	42	42	60	56
1957	383	351	351	309	262
1960	216	179	179	144	78
	millions of constant 1957 dollars				
1946	58	55	55	81	74
1957	546	500	500	440	376
1960	305	252	252	203	110

[1] Including capital items charged to operating expenses.

TABLE 8. Capital Consumption Allowances in Manufacturing
Machinery and Equipment Component[1]

	Set III	Set II	Set I	Set IV	Set V
	millions of current dollars				
1946	171	173	173	158	162
1957	413	458	458	518	583
1960	519	577	577	630	729
	millions of constant 1949 dollars				
1946	223	226	226	207	212
1957	292	324	324	366	413
1960	340	377	377	412	477
	millions of constant 1957 dollars				
1946	317	321	321	295	301
1957	413	459	459	519	584
1960	480	534	534	583	675

[1] Including capital items charged to operating expenses.

Note: Tables 3 to 8 of Section II are based on the tabular material offered in the **Statistical Supplement** to the present document.

On the basis of the evidence shown in these tables and the accompanying charts it can be suggested that the proportion of net to gross fixed capital formation is affected not so much by the different "life" estimates *per se* but such different estimates coupled with acceleration and deceleration in gross fixed capital formation. Given the method used in preparing these estimates, if gross fixed capital formation in constant dollars were constant year after year, then no matter what "lives" were used in calculating capital consumption allowances, the level of the latter estimates would be the same. An increase in gross fixed capital formation will see a more rapid rise in estimates of capital consumption allowances based on short "lives" than those based on long "lives" and vice versa for a decrease in gross fixed capital formation. The erratic historical behaviour of constant dollar gross fixed capital formation means, however, that it is difficult to isolate the effects of acceleration and retardation of the rate of gross fixed capital formation through the different "life" estimates on estimates of net fixed capital formation and capital consumption allowances.

There has, however, been a secular advance in gross fixed capital formation (as Section II, Chart 2, shows) particularly in the post-World War II period. Given this underlying trend, it can be expected that the level of estimates of capital consumption allowances (and net fixed capital formation) based on short "lives" will be higher (lower) than those based on long "lives". Such expectations are borne out by inspection of the tables given in the *Statistical Supplement* to this report. For total Manufacturing, the results are repeated in Section II, Charts 3 to 8. The striking conclusion to be drawn from an analysis of these data and charts is that the trend and cyclical behaviour of the estimates of net fixed capital formation are largely unaffected by the different "life" assumptions being employed. The capital consumption allowances in constant 1949 dollars for all Manufacturing display stable trends and hence the net capital formation estimates largely reproduce the cyclical pattern demonstrated by the gross capital formation data. If even shorter "lives" than those in Set V in the *Statistical Supplement* had been chosen, the capital consumption allowances might well have shown greater cyclical sensitivity but it is felt that the range of "lives" used in this report probably bracket the "true lives" of fixed capital goods used in Manufacturing.

Limitations of space prevent a comprehensive analysis of the behaviour of capital flows over the period 1946-60 at the Major Group level. Five combined Major Groups (Food and Beverages; Paper Products; Iron and Steel Products; Non-ferrous Metal Products and Electrical Apparatus and Supplies; and Non-metallic Mineral Products and Products of Petroleum and Coal) contributed an average of sixty-seven per cent of total current dollar gross fixed capital formation in Manufacturing over the period 1946-60. Section II, Charts 9 to 23, indicate that, for these important combined Major Groups, the cyclical behaviour of net fixed capital formation and capital consumption allowances in constant 1949 dollars is not significantly altered by the five different sets of "lives". The different net fixed capital formation series in the Food and Beverages Major Group all peak in 1947 and 1954 and merely reproduce the peaks which occur in those years for the gross fixed capital formation series and the cyclical insensitivity of the capital consumption allowances estimates. In the Paper Products Major Group, a substantial burst of gross fixed capital formation occurred in 1956 and 1957 which is also represented in net terms with all the series of capital consumption allowances rising later in response to the earlier burst of gross fixed capital formation. It is to be noted that the estimates of capital consumption allowances derived from the set of shortest assumed "lives" actually lead to negative net fixed capital formation for the years 1958 and 1959. With longer assumed "lives", net fixed capital formation is positive but low, all series indicating a moderate growth in the net stock of fixed capital in this Major Group at the end of the period under examination.

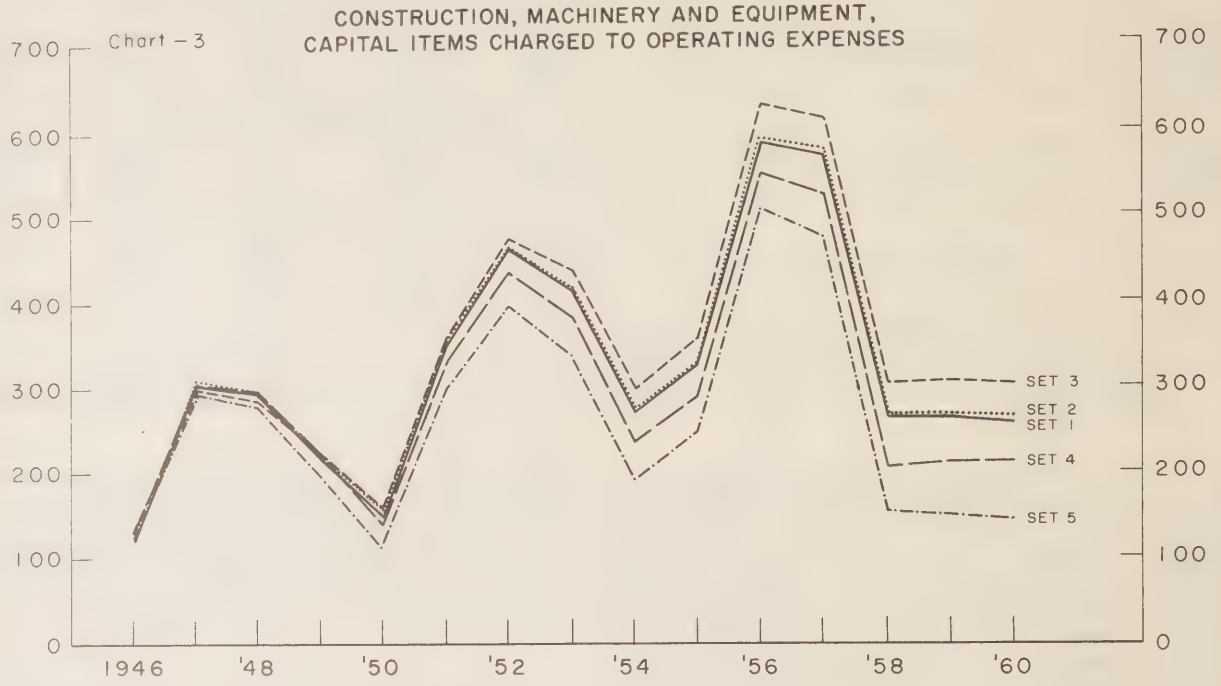
SECTION – II

NET FIXED CAPITAL FORMATION, TOTAL MANUFACTURING

(MILLIONS OF CONSTANT 1949 DOLLARS)

CONSTRUCTION, MACHINERY AND EQUIPMENT, CAPITAL ITEMS CHARGED TO OPERATING EXPENSES

Chart – 3

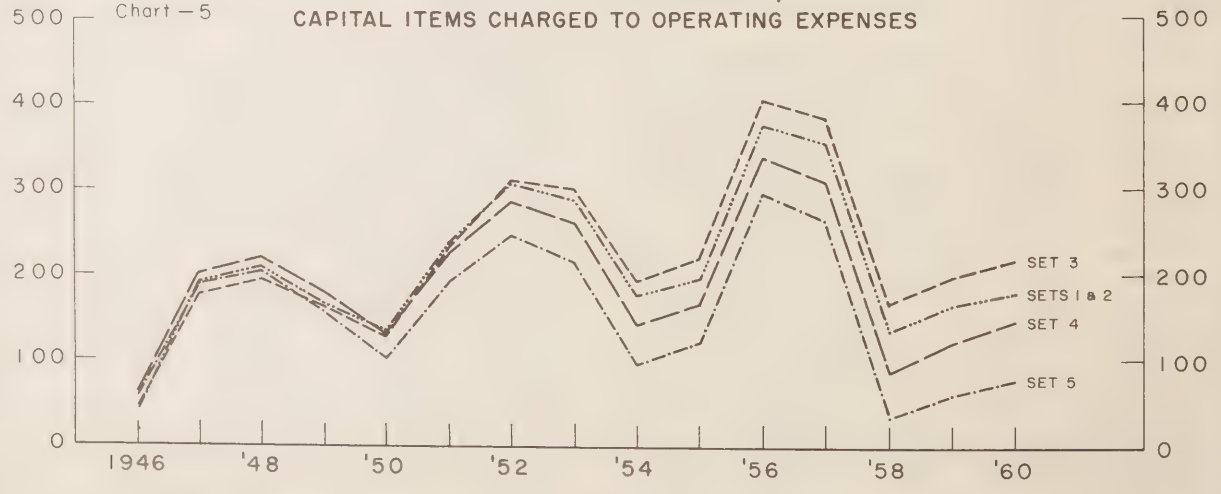


CONSTRUCTION

Chart – 4

MACHINERY AND EQUIPMENT, CAPITAL ITEMS CHARGED TO OPERATING EXPENSES

Chart – 5



NOTE: BASED ON DATA FOUND IN THE STATISTICAL SUPPLEMENT TO THE PRESENT DOCUMENT.

SECTION – II

CAPITAL CONSUMPTION ALLOWANCES, TOTAL MANUFACTURING

(MILLIONS OF CONSTANT 1949 DOLLARS)

Chart – 6

CONSTRUCTION, MACHINERY AND EQUIPMENT, CAPITAL ITEMS CHARGED TO OPERATING EXPENSES

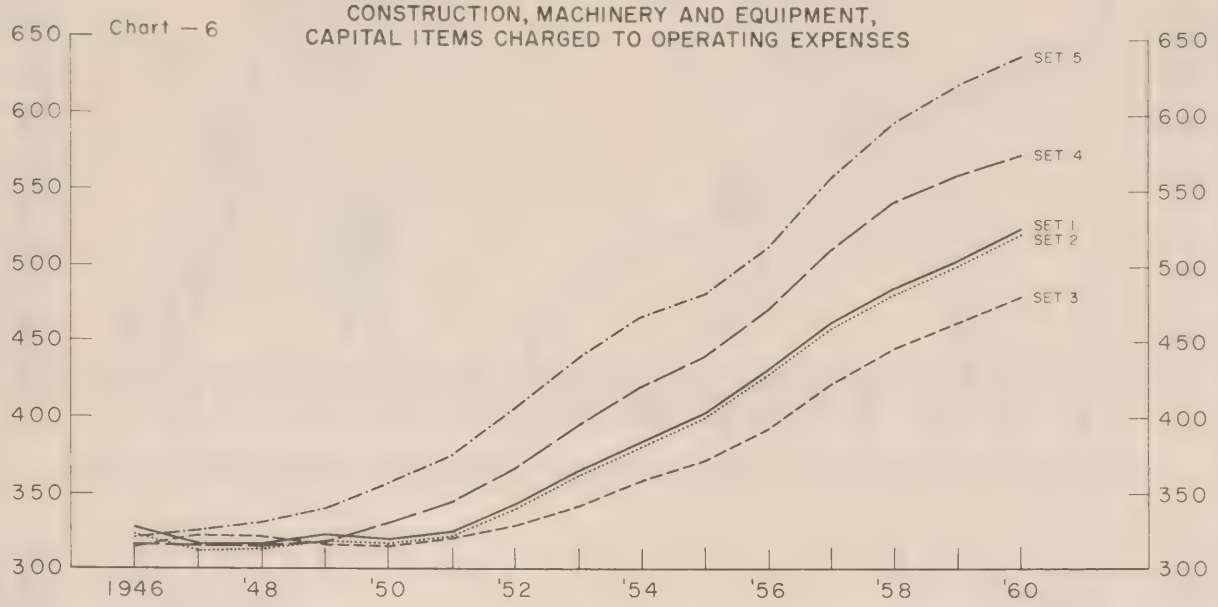


Chart – 7

CONSTRUCTION

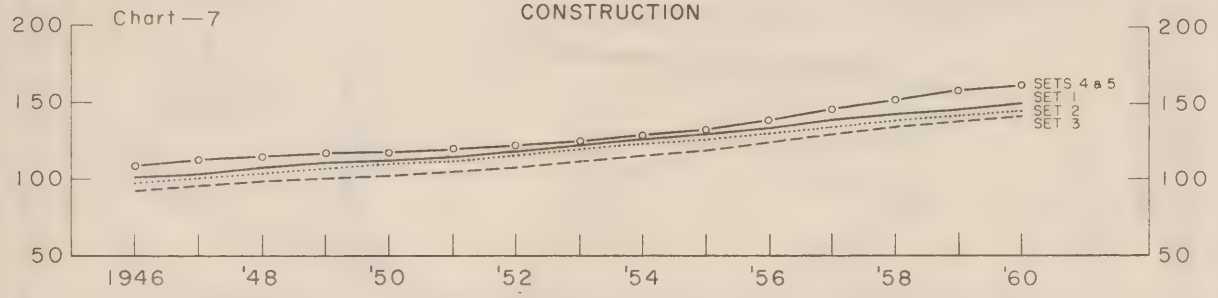
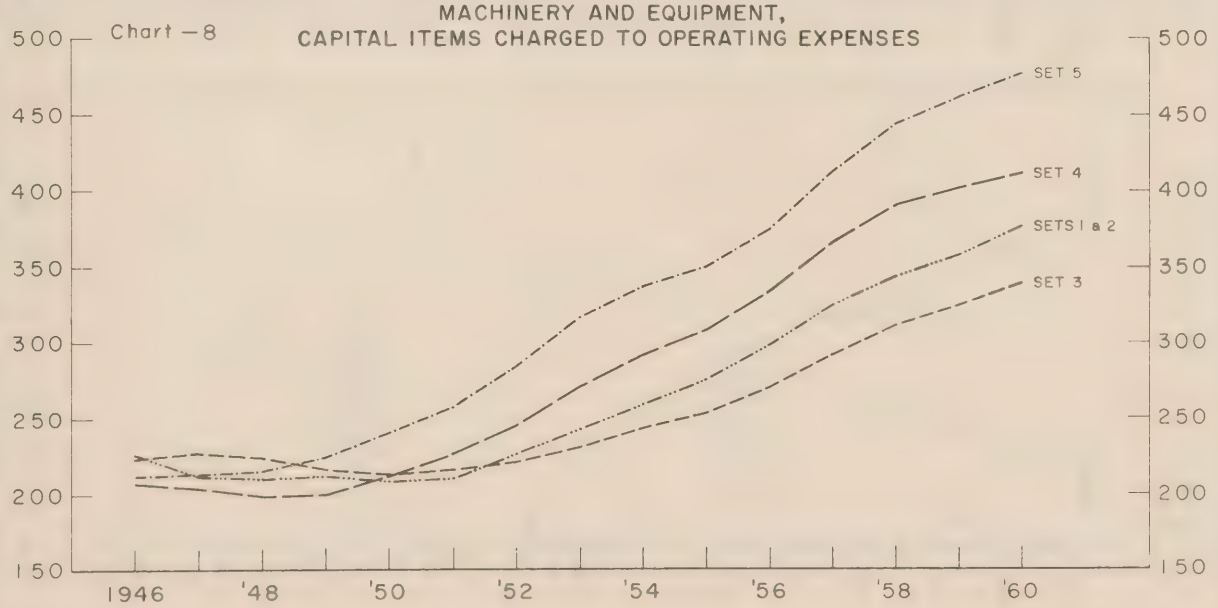


Chart – 8

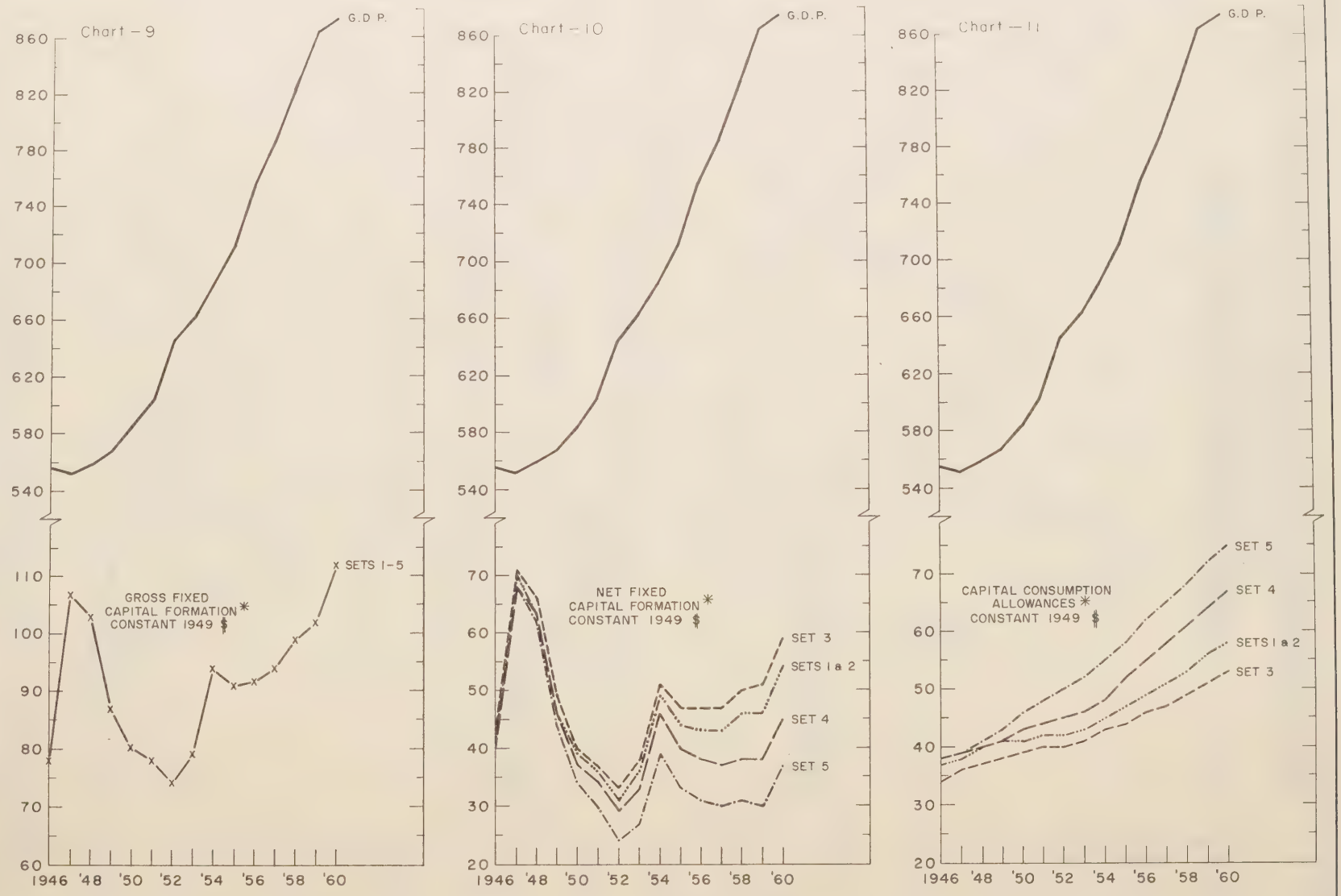
MACHINERY AND EQUIPMENT, CAPITAL ITEMS CHARGED TO OPERATING EXPENSES



NOTE: BASED ON DATA FOUND IN THE STATISTICAL SUPPLEMENT TO THE PRESENT DOCUMENT.

FOODS AND BEVERAGES

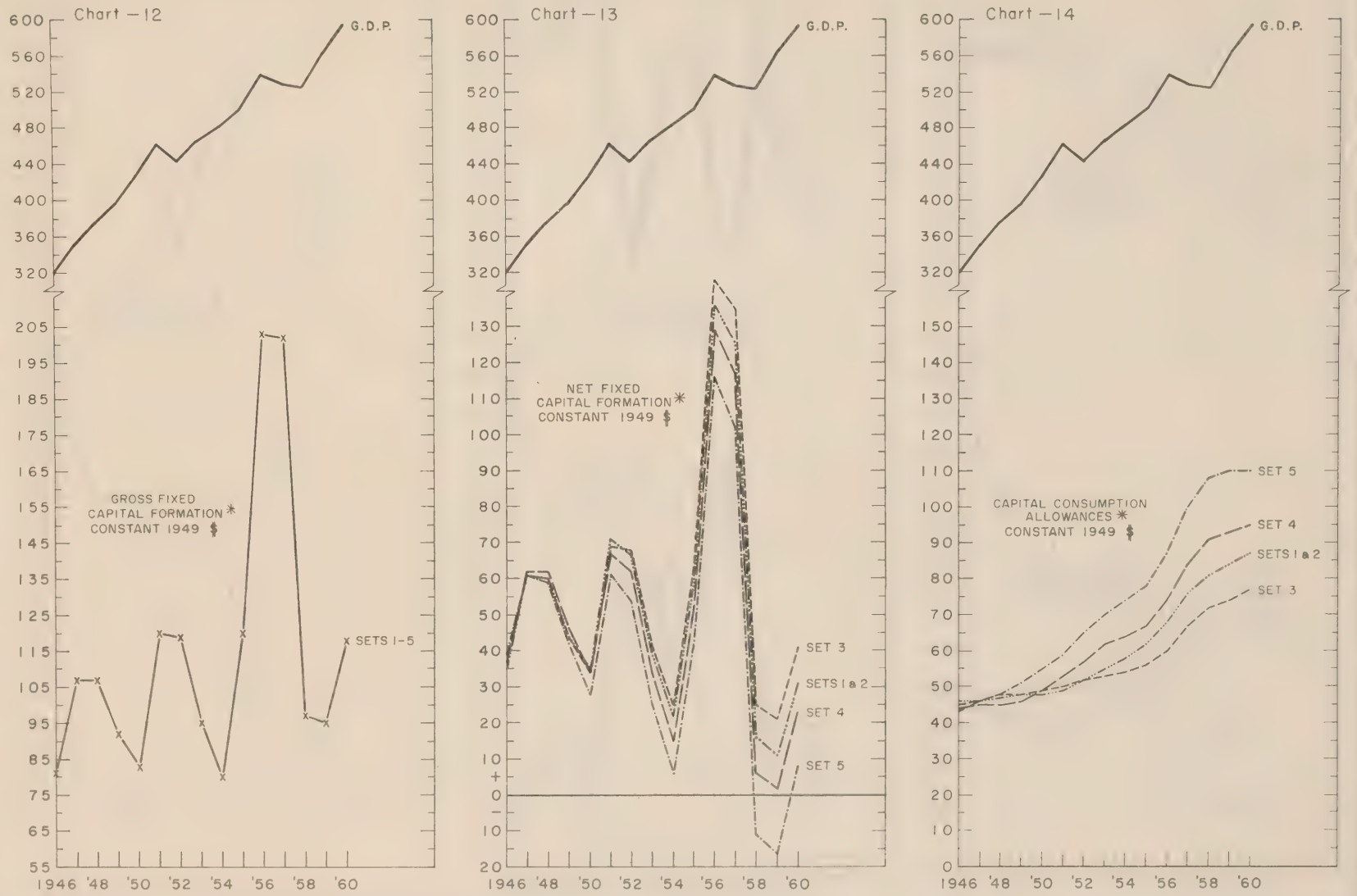
(MILLIONS OF DOLLARS)



*CONSTRUCTION, MACHINERY AND EQUIPMENT INCLUDING CAPITAL ITEMS CHARGED TO OPERATING EXPENSES.

PAPER PRODUCTS

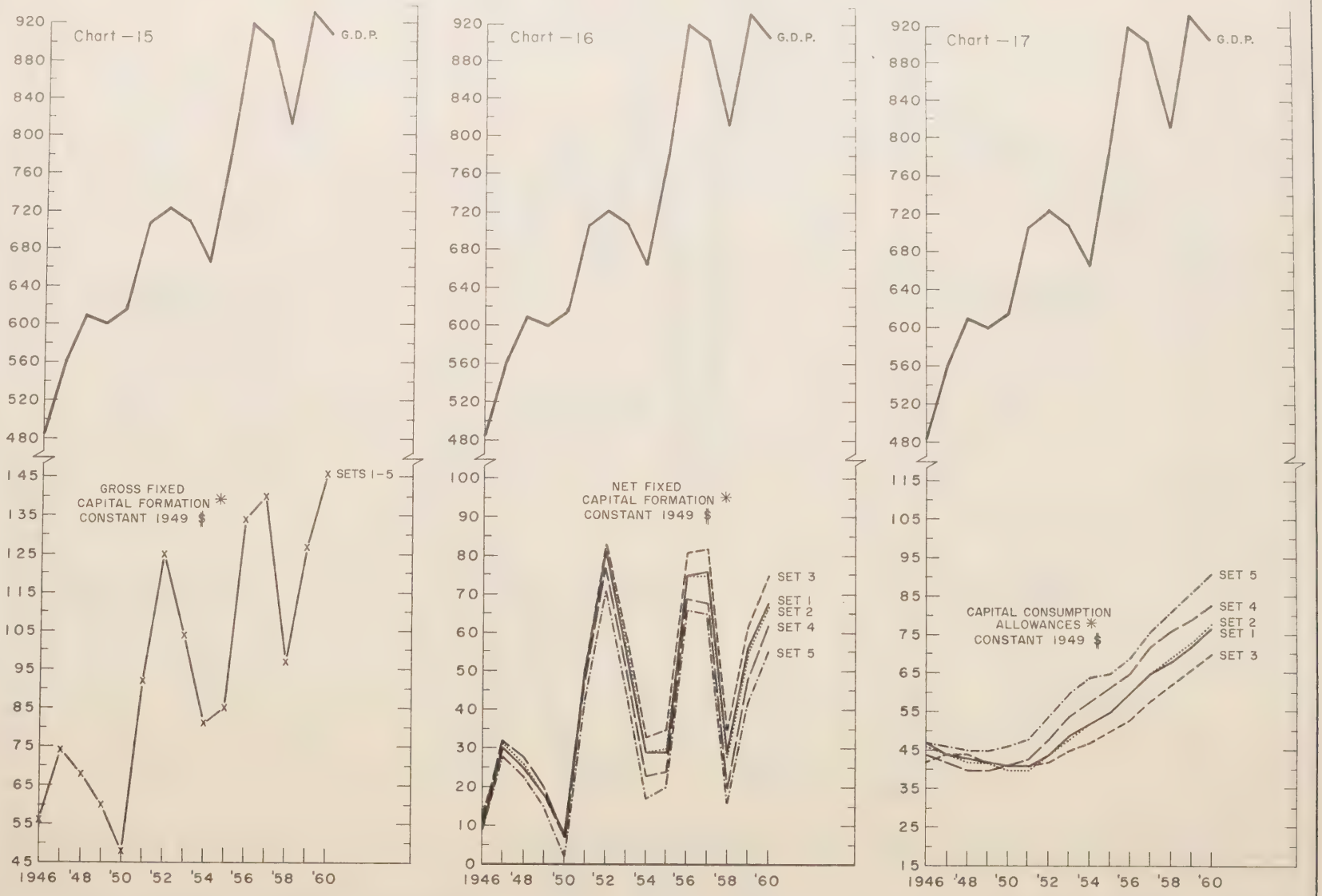
(MILLIONS OF DOLLARS)



* CONSTRUCTION, MACHINERY AND EQUIPMENT INCLUDING CAPITAL ITEMS CHARGED TO OPERATING EXPENSES.

IRON AND STEEL PRODUCTS

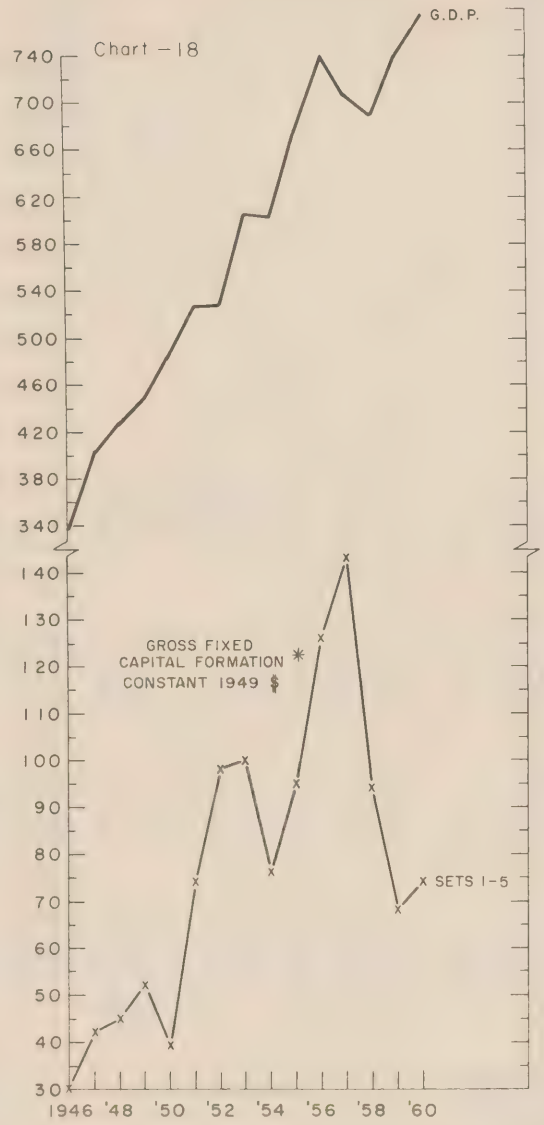
(MILLIONS OF DOLLARS)

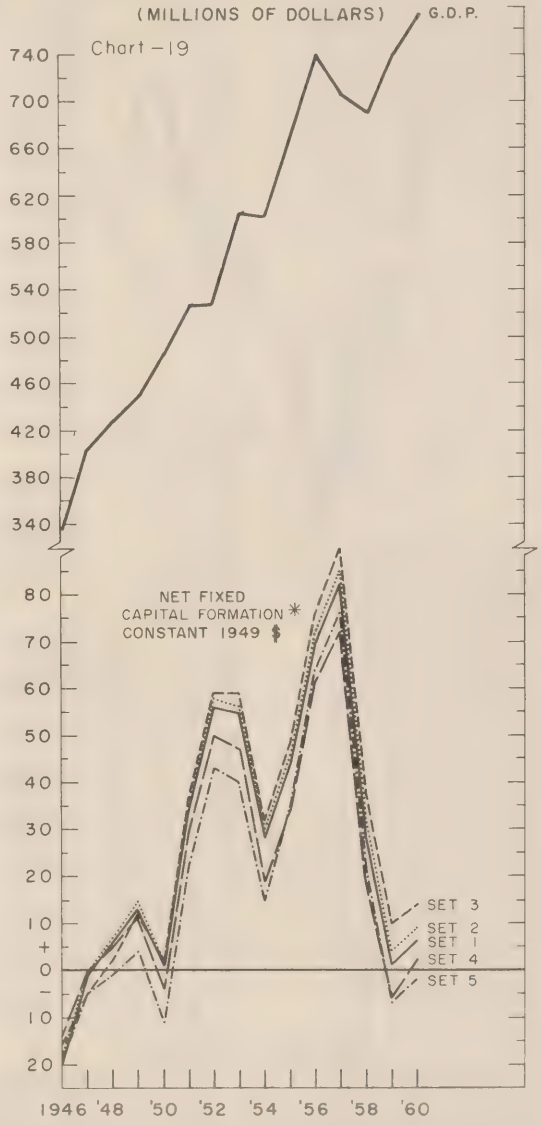


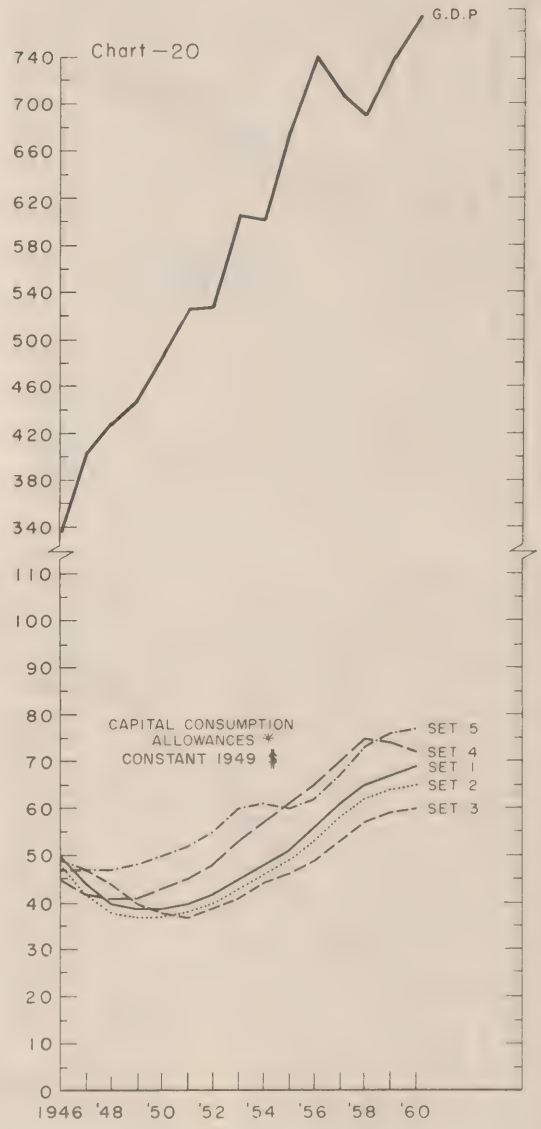
* CONSTRUCTION, MACHINERY AND EQUIPMENT INCLUDING CAPITAL ITEMS CHARGED TO OPERATING EXPENSES.

NON-FERROUS METAL PRODUCTS AND ELECTRICAL APPARATUS AND SUPPLIES

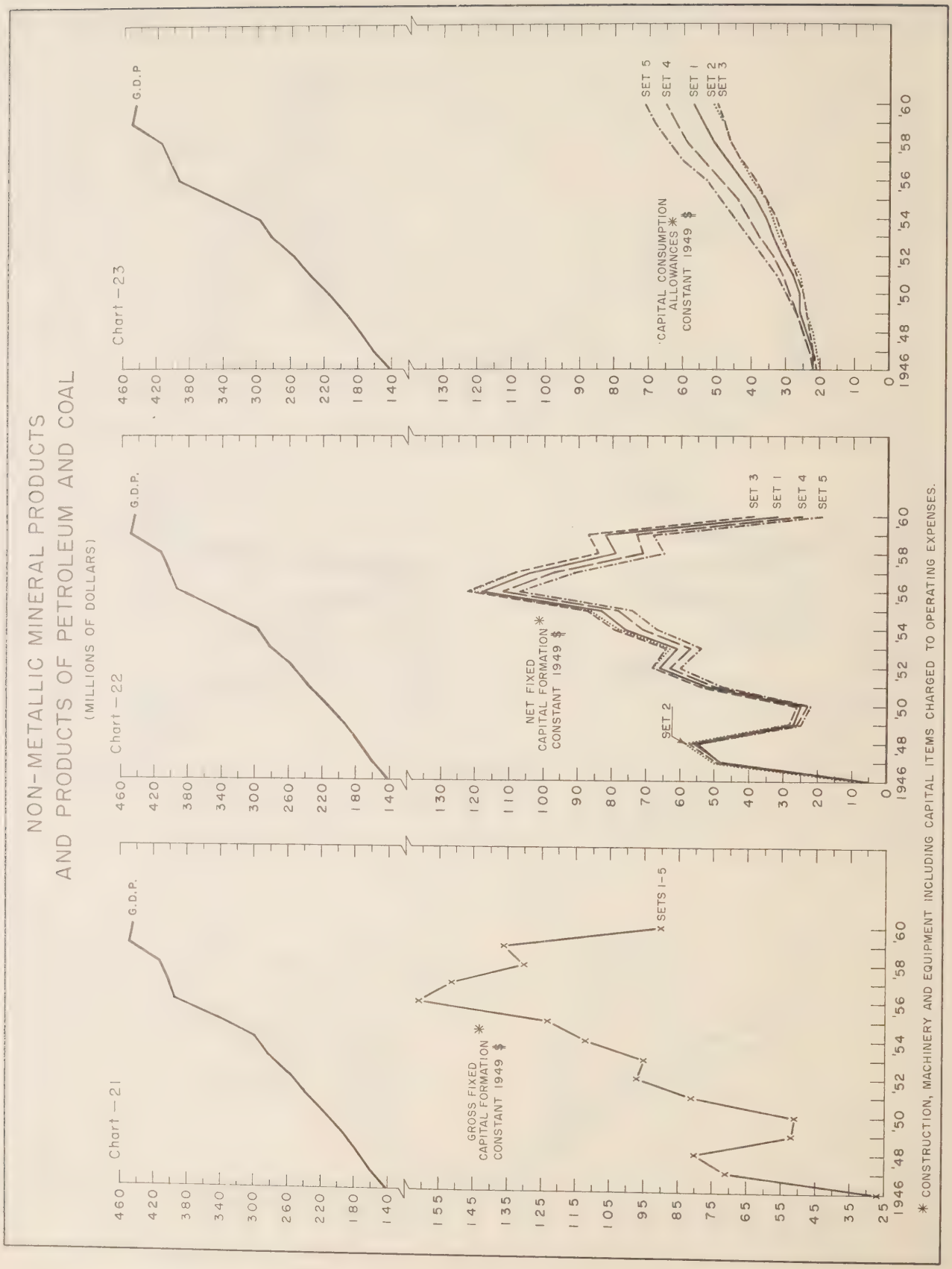
(MILLIONS OF DOLLARS)







* CONSTRUCTION, MACHINERY AND EQUIPMENT INCLUDING CAPITAL ITEMS CHARGED TO OPERATING EXPENSES.


NON-METALLIC MINERAL PRODUCTS
AND PRODUCTS OF PETROLEUM AND COAL
(MILLIONS OF DOLLARS)
Chart – 21
G.D.P.
GROSS FIXED CAPITAL FORMATION * CONSTANT 1949 $
SETS 1-5
Chart – 22
G.D.P.
NET FIXED CAPITAL FORMATION * CONSTANT 1949 $
SET 2
SET 3
SET 1
SET 4
SET 5
Chart – 23
G.D.P
CAPITAL CONSUMPTION ALLOWANCES * CONSTANT 1949 $
SET 5
SET 4
SET 1
SET 2
SET 3
1946 '48 '50 '52 '54 '56 '58 '60
* CONSTRUCTION, MACHINERY AND EQUIPMENT INCLUDING CAPITAL ITEMS CHARGED TO OPERATING EXPENSES.

For the Iron and Steel Products Major Group, the estimates of net fixed capital formation and capital consumption allowances reveal that trends and movements over time are relatively unaffected by the different "life" assumptions. The same thing is true with respect to the combined Non-ferrous Metal Products and Electrical Apparatus and Supplies Major Group with one exception. As Charts 19 and 20 of Section II reveal, for the shortest assumed "lives", capital consumption allowances display relatively greater cyclical sensitivity and so consequently does the estimate of net fixed capital formation for that assumed set of "lives". The broad trends, however, in net fixed capital formation and the years of peak and trough activity in net fixed capital formation remain unaffected. Again, for the Non-metallic Mineral Products and Products of Petroleum and Coal Major Group, the capital flow estimates would not appear to be affected to any large extent by the different assumed "lives" of fixed capital goods in that industry.

(c) Fixed Capital Stocks in Manufacturing

A full examination of the different estimates of the stock of fixed capital in Manufacturing is not possible in this preliminary report. Instead, the analysis will concentrate on trends in net stock estimates and the relationship between movements in net stock estimates and output. Different analysts will have interest in different estimates, such as output per unit of gross stock (both expressed in constant 1949 dollars) or the relationship between current dollar net returns to capital and current dollar net stock of fixed capital. The examination here is selective and not exhaustive. Furthermore, as Section V of this report reveals, a full scale analysis of the resulting estimates would involve further extensive research—research which would be designed partially to improve the preliminary estimates presented here. It is sufficient to note that caution must be employed in interpreting the stock estimates reported here for reasons outlined at length in the remainder of this report.

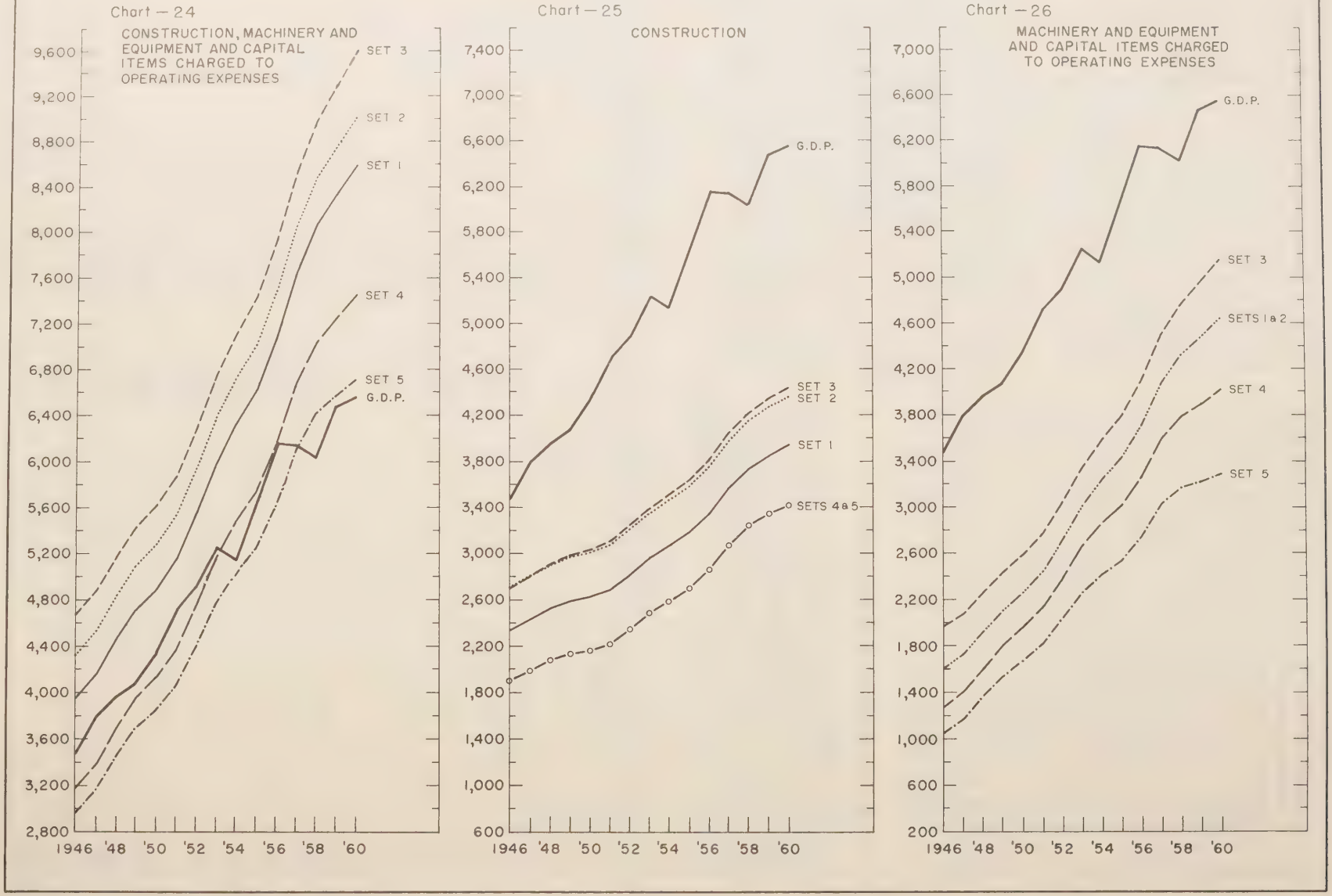
The total net stock of capital in constant 1949 dollars in Manufacturing, regardless of which set of the five sets of assumed "lives" is chosen, can be said, as Section II, Table 9 shows, to have more than doubled from 1946 to 1960. The sharp fall-off in net fixed capital formation after 1957 (Section II, Chart 3) leads to a retardation in the rate of growth of the total net stock after 1957 (see Section II, Chart 24). It would appear from Section II, Charts 25 and 26 that, again regardless of "life" estimates used, the net stock of machinery and equipment (including capital items charged to operating expenses) grew more rapidly than the net stock of construction-type capital goods. As indicated previously, caution must be employed in making such an interpretation however.

TABLE 9. Total Mid-year Net Stock of Fixed Capital, Manufacturing, 1946 - 60

Year	Set I	Set II	Set III	Set IV	Set V
	millions of constant 1949 dollars				
1946	3,962	4,333	4,687	3,187	2,968
1947	4,172	4,547	4,899	3,403	3,176
1948	4,470	4,848	5,191	3,702	3,463
1949	4,722	5,104	5,444	3,958	3,700
1950	4,904	5,288	5,630	4,137	3,853
1951	5,152	5,540	5,883	4,371	4,057
1952	5,555	5,946	6,295	4,752	4,403
1953	5,990	6,384	6,749	5,160	4,768
1954	6,331	6,728	7,115	5,468	5,031
1955	6,628	7,030	7,442	5,729	5,249
1956	7,084	7,488	7,932	6,145	5,623
1957	7,661	8,070	8,549	6,677	6,112
1958	8,075	8,489	9,006	7,039	6,424
1959	8,336	8,754	9,309	7,245	6,573
1960	8,596	9,018	9,613	7,453	6,718

MID-YEAR NET STOCK, TOTAL MANUFACTURING

(MILLIONS OF CONSTANT 1949 DOLLARS)



It is interesting to compare the estimates of the net stock of capital with constant dollar gross domestic product originating in Manufacturing. There would appear to have been a long-run decline in the ratio of output to the net stock in Canadian Manufacturing over the period 1946 to 1960. There were, of course, interruptions in this gradual decline as Section II, Charts 24-26, illustrate. Evidence, however, for such a decline exists prior to the reduction in output in Manufacturing in 1954, 1956 and 1957, particularly when estimates based on short economic "lives" are examined. The net stock of fixed capital can be interpreted as a primary input into production.[2] It is of interest to note that in Canadian Manufacturing whereas output per unit of the net stock of fixed capital declined over the period 1947 to 1960, output per unit of labour input rose substantially.

TABLE 10. Output per unit of primary input, Canadian Manufacturing, 1947 – 60

Indexes 1949 = 1.000

Year	Output per unit of total net stock of fixed capital					Output per person employed	Output per man-hour
	Set I	Set II	Set III	Set IV	Set V		
1947	1.054	1.046	1.036	1.084	1.086	0.968	0.954
1948	1.027	1.024	1.020	1.041	1.040	0.988	0.969
1949	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1950	1.027	1.030	1.032	1.021	1.025	1.049	1.059
1951	1.062	1.068	1.072	1.050	1.057	1.074	1.105
1952	1.022	1.032	1.040	1.001	1.010	1.084	1.127
1953	1.016	1.030	1.040	0.988	1.000	1.129	1.166
1954	0.940	0.956	0.964	0.912	0.926	1.152	1.213
1955	0.985	1.004	1.012	0.956	0.975	1.233	1.292
1956	1.008	1.031	1.038	0.975	0.995	1.295	1.347
1957	0.930	0.954	0.961	0.894	0.913	1.286	1.355
1958	0.865	0.890	0.895	0.832	0.853	1.328	1.399
1959	0.901	0.927	0.930	0.869	0.895	1.409	1.475
1960	0.886	0.912	0.913	0.856	0.888	1.447	1.527

Note: The output series is constant 1949 dollar gross domestic product at factor cost originating in Manufacturing and is derived from DBS Cat. No. 61-005 (Supplement), *Annual Supplement to the Monthly Index of Industrial Production* p. 52 Table 2. The total net stock of fixed capital are the constant 1949 dollar mid-year estimates presented in this report. The output per unit of labour input indexes are from DBS Cat. No. 11-001 *Daily Bulletin*, June 7, 1966 p. 3.

Again, the evidence would suggest that variations in "life" estimates do not undermine interpretations which can be placed on the changes over time in the capital intensity of production in Canadian Manufacturing. However, as Section II, Charts 24-26 reveal, any comparison of the levels of capital intensity in production amongst industries in any given year must be done with caution since the level of the flow and stock estimates **is** greatly affected by different "life" assumptions. As the evaluation of the estimates in Section V of this report shows, such considerations, in view of the lack of satisfactory information on the economic "lives" of capital goods, bear heavily on analysis couched in terms of comparative levels – either inter-industry or international.

At the combined Major Group level, Charts 27 to 31 of Section II show that, for the Major Groups whose capital expenditures constitute a large proportion of the capital expenditures for all Manufacturing, the same behaviour holds as was evidenced at the total Manufacturing level with respect to the relationship between output and total net stock of capital. Regardless of the set of "life" estimates used for the Food and Beverages, Paper Products, Iron and Steel Products, Non-ferrous Metal Products and Electrical Apparatus and Supplies, and Non-metallic Mineral Products and Products of Petroleum and Coal Major Groups, it would appear that the net stock of fixed capital has been rising relatively to output.

[2] As pointed out in Section I, some investigators, when treating capital as an input, use the gross stock of capital. Others would prefer the net stock while others would use the net stock and capital consumption allowances together.

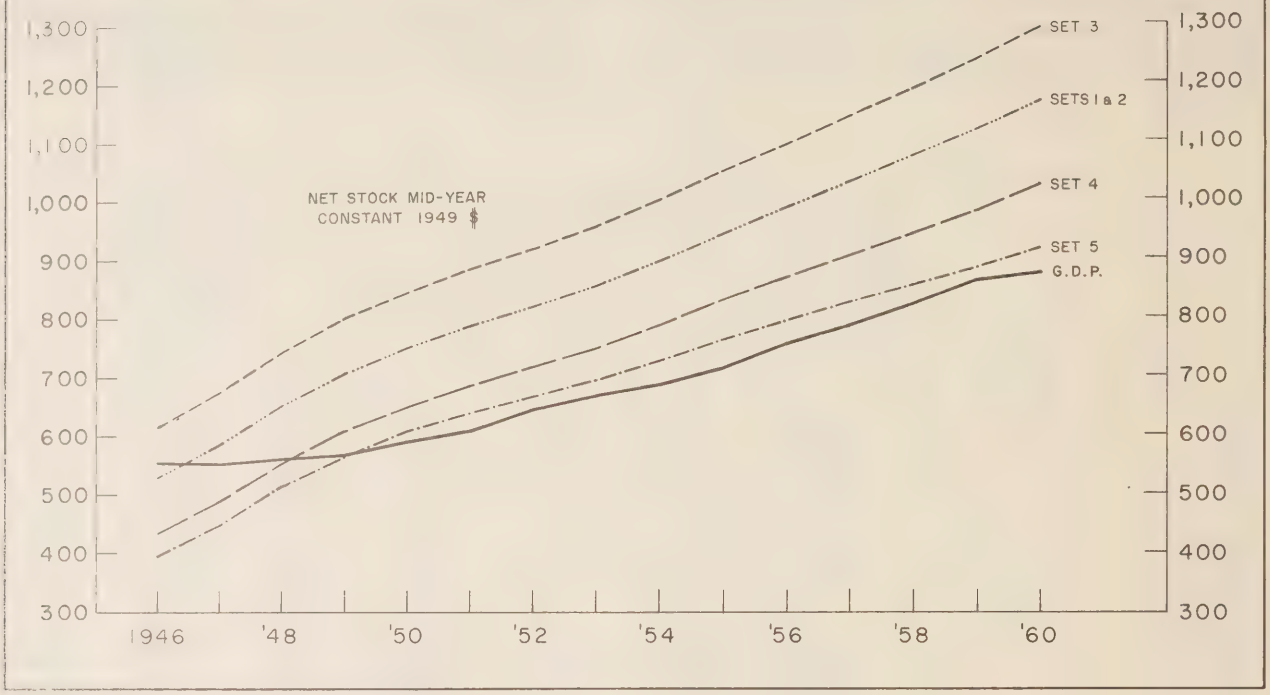
SECTION – II

Chart – 27

FOOD AND BEVERAGES

CONSTRUCTION, MACHINERY AND EQUIPMENT, AND CAPITAL ITEMS CHARGED TO OPERATING EXPENSES

(MILLIONS OF DOLLARS)



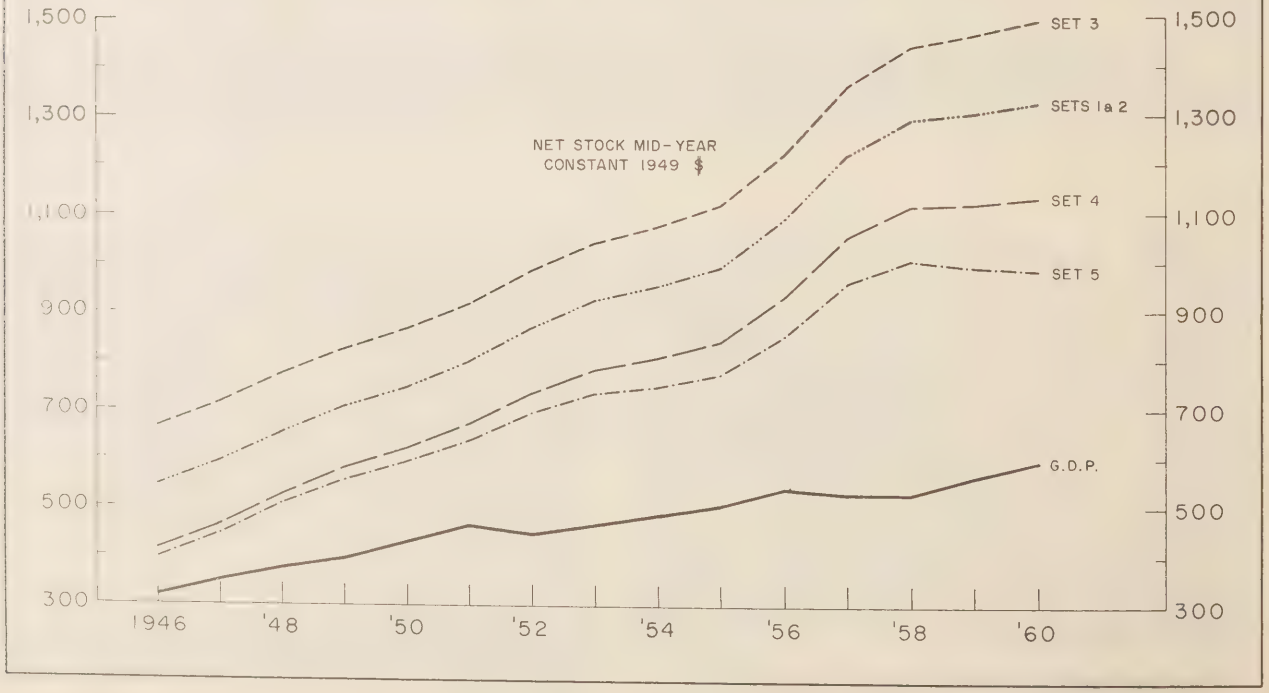
SECTION – II

Chart – 28

PAPER PRODUCTS

CONSTRUCTION, MACHINERY AND EQUIPMENT, AND CAPITAL ITEMS CHARGED TO OPERATING EXPENSES

(MILLIONS OF DOLLARS)



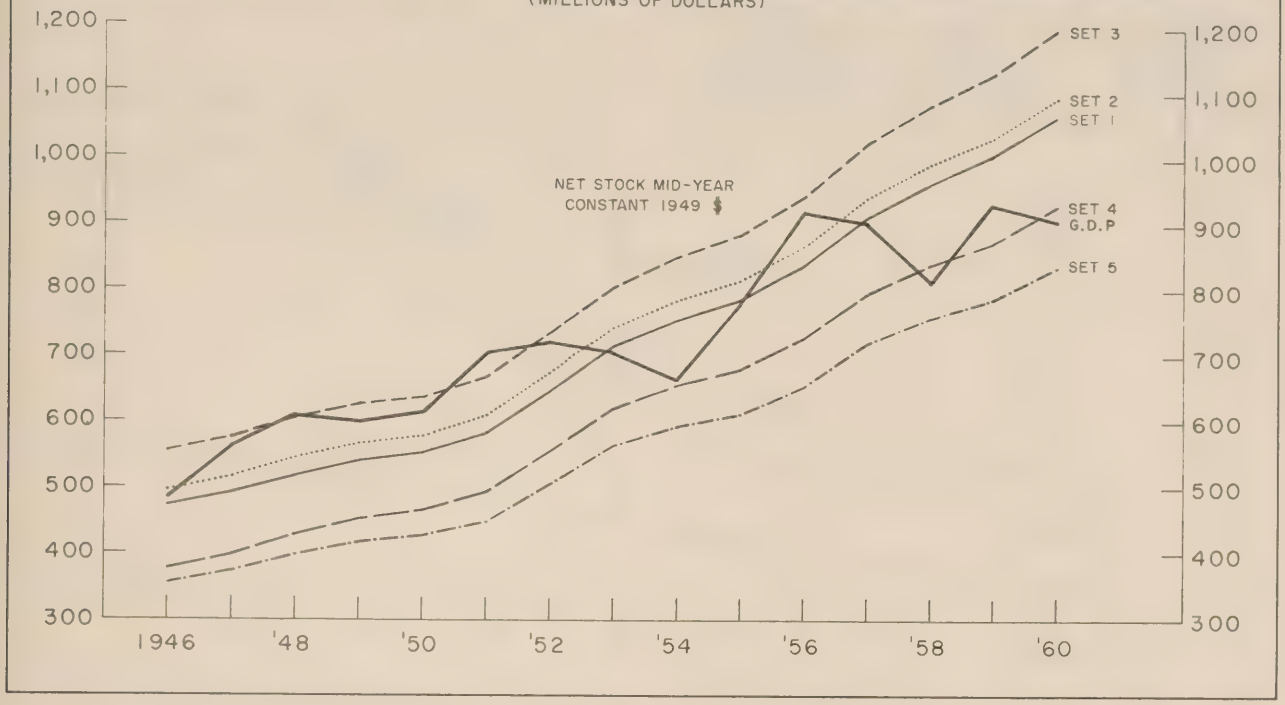
SECTION – II

Chart – 29

IRON AND STEEL PRODUCTS

CONSTRUCTION, MACHINERY AND EQUIPMENT, AND CAPITAL ITEMS CHARGED TO OPERATING EXPENSES

(MILLIONS OF DOLLARS)



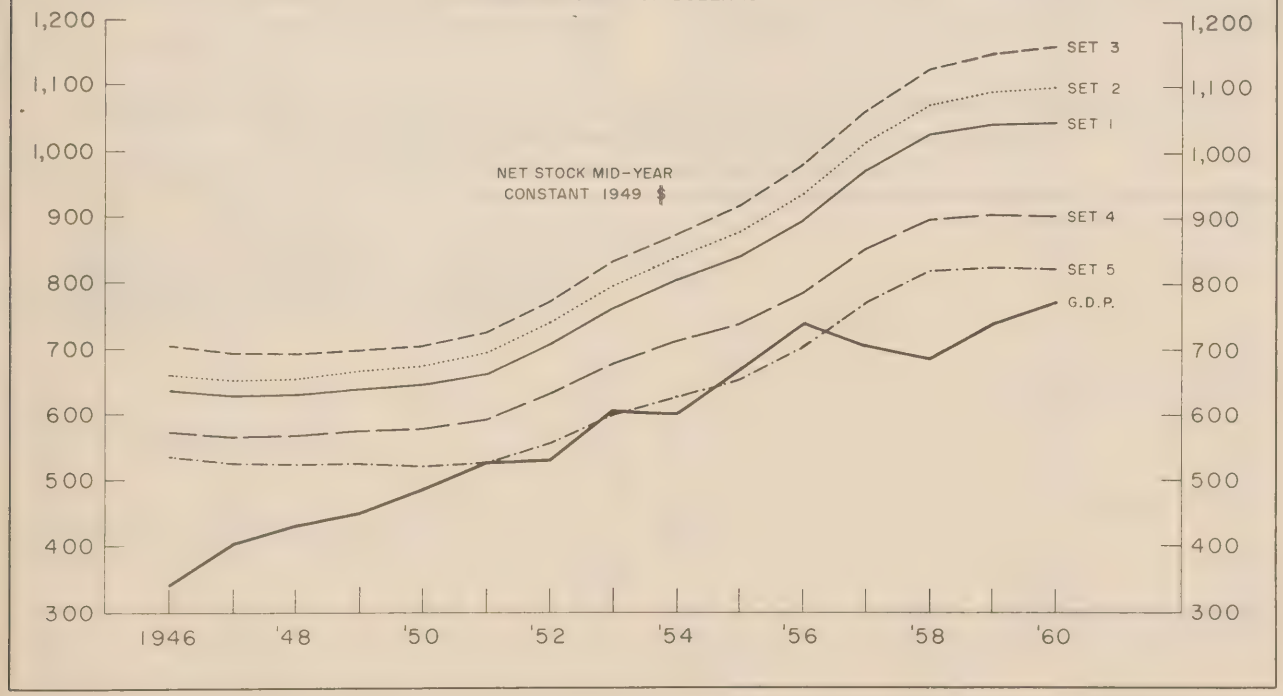
SECTION – II

Chart – 30

NON-FERROUS METAL PRODUCTS AND ELECTRICAL APPARATUS AND SUPPLIES

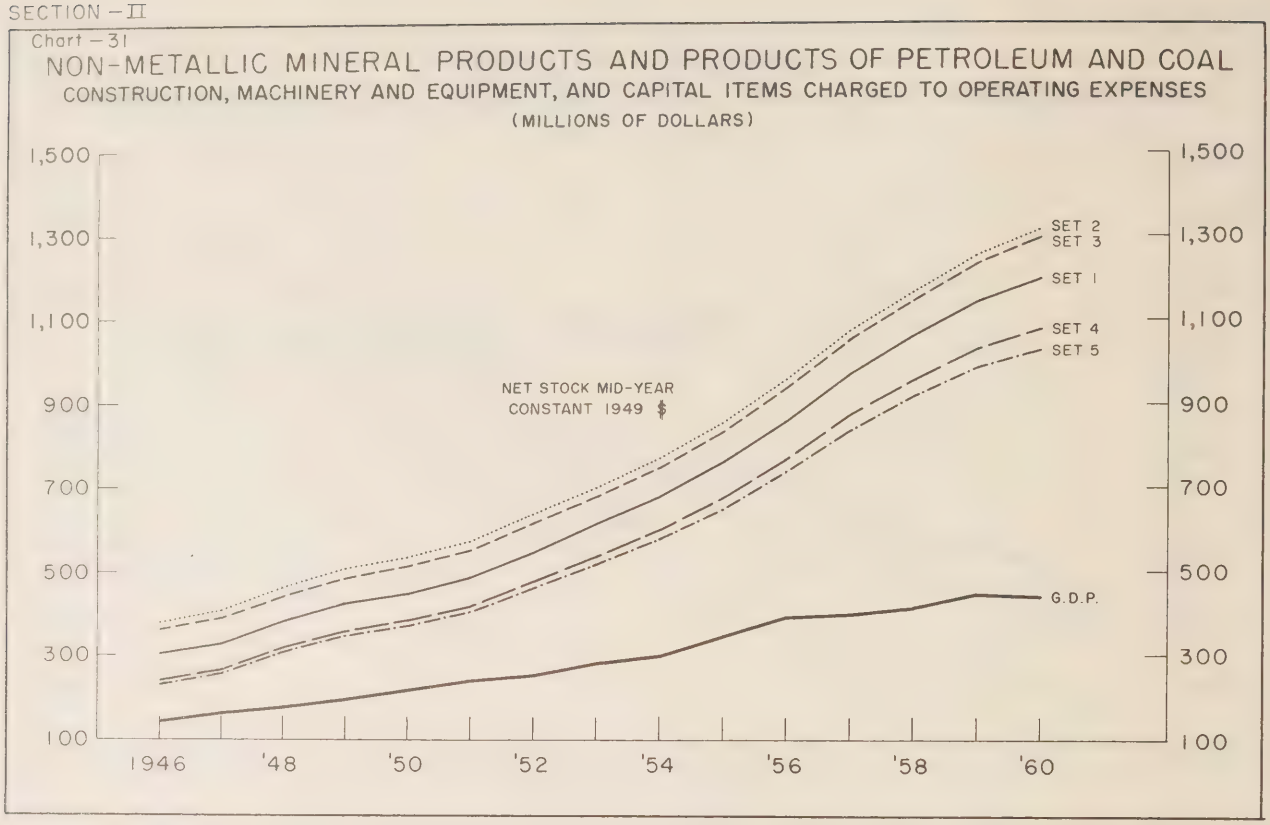
CONSTRUCTION, MACHINERY AND EQUIPMENT, AND CAPITAL ITEMS CHARGED TO OPERATING EXPENSES

(MILLIONS OF DOLLARS)



SECTION – II

Chart – 31



While the evidence presented suggests that the broad secular trends and cyclical performance of the various capital flows and stocks estimates are relatively unaffected by changes in assumed "economic lives" of capital goods, it nevertheless is true that the variations in trends which result are significant. A demonstration of such variations is provided in Section II, Table 10. The differences in output-capital ratios which arise implicitly in Table 10 would suggest that much improved information on the "lives" of capital goods, and how such "lives" alter secularly and cyclically, is required before too much confidence can be placed on the capital stock estimates presented in this report.

TABLE 11. Rates of Growth of Output, Net Stock of Fixed Capital and Capital Consumption Allowances, by Major Group and Total Manufacturing, 1946 - 60

(Natural logarithmic average annual rates of change)

	Set (s) of "lives"	(1) Constant 1949 dollar gross domestic product at factor cost	(2) Constant 1949 dollar mid-year net stock of fixed capital	(3) Constant 1949 dollar capital consumption allowances
Total Manufacturing	I	4.0	5.6	3.4
	II		5.2	3.4
	III		5.1	3.0
	IV		6.1	4.3
	V		5.9	4.9
Food and Beverages	I, II	3.0	5.8	3.3
	III		5.4	3.2
	IV		6.3	4.1
	V		6.2	5.0
Tobacco, Rubber and Leather Products	I, II	2.0	3.3	4.0
	III		3.4	3.6
	IV		3.2	3.6
	V		2.9	4.3

TABLE 11. Rates of Growth of Output, Net Stock of Fixed Capital and Capital Consumption Allowances, by Major Group and Total Manufacturing, 1946-60 – Concluded

(Natural logarithmic average annual rates of change)

	Set (s) of "lives"	(1) Constant 1949 dollar gross domestic product at factor cost	(2) Constant 1949 dollar mid-year net stock of fixed capital	(3) Constant 1949 dollar capital consumption allowances
Textile Products	I	2.3	3.1	1.2
	II		2.9	1.4
	III		2.8	1.0
	IV		3.6	1.6
	V		3.5	2.2
Clothing	I	0.9	1.0	0.9
	II		0.8	1.8
	III		1.1	1.0
	IV		0.9	1.6
	V		–0.2	1.8
Wood Products	I	3.2	3.4	1.2
	II		2.1	0.8
	III		2.9	0.2
	IV		3.8	2.1
	V		3.4	3.1
Paper Products	I, II	4.3	6.3	4.5
	III		5.8	3.9
	IV		7.2	5.5
	V		6.5	6.8
Printing, Publishing and Allied Industries	I, II	4.6	5.0	2.2
	III		4.4	2.0
	IV		6.0	2.7
	V		6.7	3.7
Iron and Steel Products	I	3.8	5.8	3.5
	II		5.7	3.7
	III		5.5	3.6
	IV		6.5	4.5
	V		6.1	4.7
Transportation Equipment	I	3.4	3.9	–0.2
	II		3.5	0.6
	III		3.1	–0.2
	IV		4.8	1.7
	V		4.6	2.0
Non-ferrous Metal Products and Electrical Apparatus and Supplies	I	5.5	3.6	2.3
	II		3.6	2.1
	III		3.6	1.9
	IV		3.3	3.4
	V		3.0	3.2
Non-metallic Mineral Products and Products of Petroleum and Coal	I	8.1	9.8	7.0
	II		8.9	6.7
	III		9.1	6.2
	IV		10.7	7.8
	V		10.7	8.5
Chemical Products	I, II	6.6	8.2	7.4
	III		7.8	7.0
	IV		9.4	7.3
	V		9.0	8.5
Miscellaneous Manufacturing Industries	I	6.2	3.6	3.4
	II		3.3	3.7
	III		3.6	3.3
	IV		3.7	3.8
	V		3.6	3.9

Source: Based on data from N.H. Lithwick, George Post and T.K. Rymes, "Post-War Production Relationships in Canada," a paper prepared for the National Bureau of Economic Research Conference on Income and Wealth, October 1965.

(d) Conclusion

This brief examination of the estimates presented in this report is not meant to be exhaustive. The relationships between output and components of the stock of fixed capital has not been examined at the Major Group level nor has attention been paid to the changing ratio of the net to the gross stocks of capital goods and the implied changes in the age-structure of the stock. Furthermore, the description was limited only to the 1946 to 1960 period and was couched primarily in terms of constant 1949 dollars.

It is important, however, to note that intensive analysis of all the estimates presented here, when different hypotheses about how the Canadian economy operates are being tested, must be tentative and will partially serve to improve these preliminary estimates. The evidence presented here suggests, however, that both gross and net fixed capital formation increased substantially in Manufacturing in the post-war period but that a major interruption in this advance occurred in 1957. It would further appear that the capital intensity of Canadian Manufacturing increased over the period, even when account is taken of the decline in the rate of increase in output in the latter part of the period under review.

SECTION III

The Measurement Procedures: Ideal and Actual

In order that the inadequacies of the measurement procedures which lie behind the capital flow and stock estimates presented in this report may be fully appreciated, it is useful to begin with procedures which would have been followed had **all** the required data been available. Then, the actual procedures will be described and a comparison drawn between the ideal and the actual. In this way, it will be shown that ambiguities creep into the estimates even if all the data that could be hoped for were available, and, given the short cuts and arbitrary assumptions enforced by absence of data, that the actual estimates must be interpreted with much caution.

(a) Ideal Measurement Procedure

For any given industry at a point in time, the stock of existing fixed capital goods will be composed of many different kinds of fixed capital goods (structures and machinery and equipment) of many different ages. Within any given set of production techniques currently in use by that industry, each capital good has a productive role to play ranging from the specific (e.g., bottle capping machinery) to the more general (e.g., a general-use light pick-up truck). To add all these heterogeneous pieces of capital together, a standard unit of measurement must be found. Physical standards, such as horsepower, weight, etc., have their obvious drawbacks and it is necessary to fall back on the prices or values of the capital goods generated in the marketplace. If a perfect market[1] for all the types and ages and uses of the industry's stock of capital goods existed, then the market price of each structure and machine could be imputed to the structures and machines owned by this industry and a value of the stock of capital thereby obtained.

The industry, at the point of time chosen, will be in a process of change. Some firms in the industry will be making profits while others will be incurring losses. No two firms will be alike either in terms of their products or in techniques of production being used. Thus, for new capital goods which play specific roles in this industry, prices will be a function, not only of other demands being placed on the new capital goods supplying industries but also of the profits expectations of this industry. In an uncertain world where accurate prediction is a hazardous process at best, such expectations will almost inevitably be wrong. Hence, even for new capital goods for which active markets do exist, the prices being assigned to the goods by the market-place will bear only a rough relationship to the discounted value of the future stream of gross profits expected to accrue to such capital goods. Nevertheless, the market will tend to assign to new capital goods having a high prospective rate of return higher prices than it will assign to those new capital goods on which the expected rate of return is low. Thus, if there exists an active market for new capital goods which have just been added to the stock when an inventory is taken, then a set of relative prices of these new capital goods can be obtained and these components of the stock can be added together.

The stock is, however, also composed of existing capital goods of different ages and employed in techniques of production not all of which will be the most up-to-date least-cost methods of production.[2] The initial cost of existing capital goods, having been incurred earlier in time, will not determine whether or not such capital goods are retained in productive service. What are the forces which will determine whether or not a profit-seeking firm will continue to use an old rather than a new machine? Continued use of the machine involves an expected flow of future gross profits whose present value must exceed whatever saleable value the machine might have. In estimating the future gross profit, no account is taken of past depreciation since such costs are irrelevant. If the market price of a used machine should rise above its present value in any one activity then it will presumably be sold out of that activity. However, a firm may install a new machine and sell or scrap an old machine, even when the present value of the old machine exceeds its market price or its contribution as scrap to profits simply because the present value of the new machine plus the receipts from selling the old machine exceed the cost of the new machine and the present value of the old. In the real world, therefore, market prices for existing capital goods will not necessarily bear a close relationship to their actual value to the owners of such capital goods. Once again, however, over time there should be some relationship between such prices and values. Growing discrepancies would imply that business firms had abandoned even a rough search for maximum profits.

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[1] A perfect market assumes that equilibrium prevails both in the sense that the degree of competition is unchanging and that expectations as to future prices, wage rates, interest rates, etc., are all being confirmed and not disturbed as time progresses. In such equilibrium conditions, the supply price of any new capital good will be a function of (a) the techniques used to produce it (b) the money wage and salary rates of the various hands employed in making the capital goods and (c) the equilibrium rate of return appropriate to that activity. Prices of other capital and material goods used in producing each capital good will, of course, be similarly determined. These prices of all capital goods will be equal to the present value of the future stream of gross profits expected to arise from use of the capital goods with the rate of discount being equal to the net rate of return to capital in the next best use of such capital goods. In perfectly competitive equilibrium, all net rates of return will be equal. In the real world, profits and losses are being made since expectations are continually being upset. A perfect market does not exist. How close actual markets are to perfect markets is an empirical question.

[2] See, for instance, W. Salter, *Productivity and Technical Change* (Cambridge: At the University Press, 1960) where a distinction between "best practice" and "average practice" techniques of production by industry is drawn.

Thus, at any point in time if market prices for new and all ages of existing capital goods for an industry exist, a measure of the market value of the capital stock in question may be derived. However, for many types of existing capital goods no active[3] market exists. Some capital goods are unique, are custom-built and have very specific roles to play. No comparable goods are sold in second-hand markets. In such cases, the changing market value of existing capital goods must be arbitrarily imputed from the changing market value of other similar existing capital goods for which an active market does exist.

What would account for the difference between the market value of two stocks of capital goods at two points in time? Such differences are accounted for by:

+ gross fixed capital formation in current dollars during the period;
− capital consumption allowances in current dollars during the period;
+ unrealized capital gain on capital goods held throughout the period or bought during the period and held to the end of the period.

If the estimates of gross fixed capital formation are taken as purchases less sales of new and used capital goods, then any sales of capital goods during the period should be charged off against purchases. If the stock is being continuously revalued to rising current market prices, then unrealized capital gains will be recorded. If losses of capital goods due to the eccentricities of Nature are not recorded as part of capital consumption allowances then the current market value of such capital goods (or their counterpart) must be shown as realized capital loss, and will thus be an additional part of the difference between the two values of the net stock.

In terms of constant dollars, since gross fixed capital formation, capital consumption allowances and any realized capital losses are expressed in constant prices, no unrealized capital gains or losses can be recorded. All new capital goods purchased during a time period will be valued in terms of the average prices of new capital goods existing in (say) 1949. Purchases of existing capital goods will be valued in terms of the average prices of existing capital goods in 1949, classified by age. Sales of existing goods will be similarly valued. Capital consumption allowances will be estimated by recording the decline in average market value in 1949 that occurred when capital goods, classified by age, increased in age by one year. Similarly, capital goods destroyed by fire, etc., will be valued in terms of the average prices of capital goods in 1949 classified by age.

The constant dollar value of the gross stock will be all the capital goods making up the stock multiplied by the average prices of new capital goods in 1949. The constant dollar value of the net stock will be all the capital goods making up the stock, classified by age, multiplied by the average prices, also classified by age, of all capital goods existing in 1949.

In all likelihood, the average age of the stock of capital goods will be changing over time. The age structure of the stock will alter if, other things being equal,

(i) the rate of change of gross fixed capital formation alters;
(ii) the weight of purchases of new and used capital goods less sales of used capital goods in gross fixed capital formation alters in a non-offsetting manner;
(iii) if the rate of discard of capital goods from the stock alters. Such an alteration reveals that the rate of decline in value of each age of capital goods due to ageing, obsolescence or wear and tear shown by 1949 average market values has altered;
(iv) if random variations in the average age of capital goods destroyed by fire, etc., occur;
(v) some non-offsetting combination of all these forces occurs.

Suppose the age structure of a given bundle of capital goods alters over time in response to alteration in the rate of discard. This implies that the relative values which the market assigned to the different ages of capital goods in some base period no longer represent the market's relative evaluations in the current period. It has been argued that relative prices in the base period should bear some relationship to the present value of the capital goods in the base period. Hence, an alteration in at least one of the components (expected prices, wage rates, interest rates, etc.) making up the present value of the various ages of capital goods has occurred.

If market prices for both time periods are available, meaningful approximations to the current dollar gross or net stock can be derived. The change in such stock estimates, however, will be an amalgam of net investment[4] and unrealized capital gains or losses due to the changing prices of the different ages of capital goods. In terms of constant dollars, there arises an index-number problem in the sense of which year's relative prices to use as weights in the constant dollar series. Suppose, for instance that the average economic life of capital goods increases by one year. In the current period, no new

[3] An active or current market for tangible assets requires that the assets in question be "... substantially homogeneous or comparable so that reported prices apply not only to specific transactions but to entire categories of generally similar assets". R.W. Goldsmith and R.E. Lipsey, *Studies in the National Balance Sheet of the United States* (Princeton: Princeton University Press for the NBER, Inc., 1963) Vol. 1, p. 166.

[4] The term net investment can be used in two senses: (i) gross investment less replacement and (ii) gross investment less capital consumption allowances or depreciation. It is well known that for growing or declining stocks of capital, replacement and depreciation will not be the same. See E.D. Domar, *Essays in the Theory of Economic Growth* (New York: Oxford University Press, 1957). Here, the first usage applies to the gross stock and the second to the net stock.

capital goods are purchased but those due for discard were kept one period longer. The constant dollar gross stock remains unchanged. In terms of base period constant prices, since all machines have aged one year, the net stock will fall from the base period to the current period and constant dollar capital consumption would be recorded. In terms of current period prices, the net stock could fall from the base to the current period but the fall could be less than, equal to, or greater than the fall expressed in base period constant prices. See the following example for a simple illustration of this problem.

Example of Changing Age-structure

Age of machines	Base period		Current period	
	Number	Price	Number	Price
New	10	P_{NB}	0	P_{NC}
1 year old	10	P_{1B}	10	P_{1C}
2 years old	10	P_{2B}	10	P_{2C}
3 " "	10	P_{3B}	10	P_{3C}
4 " "	10	P_{4B}	10	P_{4C}
5 " "	10	P_{5B}	10	P_{5C}
6 " "	10	P_{6B}	10	P_{6C}
7 " "	10	P_{7B}	10	P_{7C}
8 " "	10	P_{8B}	10	P_{8C}
9 " "	10	P_{9B}	10	P_{9C}
10 " "	0	P_{10B}	10	P_{10C}
Totals	**100**	–	**100**	–

Note: Where P_{3B} means the average market price of a three-year old machine in the base period and P_{3C} means the average market price of a three-year old machine in the current period.

	(1) Base period	(2) Current period	(3) Change
In base period prices:			
Gross stock	$100 \times P_{NB}$	$100 \times P_{NB}$	0
Net stock	$10(P_{NB} + P_{1B} + \ldots + P_{9B})$	$10(P_{1B} + P_{2B} + \ldots + P_{10B})$	$10(P_{NB} - P_{10B})$
In current period prices:			
Gross stock	$100 \times P_{NC}$	$100 \times P_{NC}$	0
Net stock	$10(P_{NC} + P_{1C} + \ldots + P_{9C})$	$10(P_{1C} + P_{2C} + \ldots + P_{10C})$	$10(P_{NC} - P_{10C})$

Thus, the changing age composition of the stock of capital together with changes in the market prices (or approximations thereto) of all ages of capital goods imparts a special index-number ambiguity to the measurement of net stocks of capital over time expressed in the prices of any base period.[5]

The ambiguity associated with a constant dollar measure of the net stock of capital goods when the age structure and relative prices of all ages of capital goods is changing also appears in the summation of individual capital goods for the economy as a whole. Though each individual stock may demonstrate unchanging age composition and relative prices, the individual stocks and attached sets of relative prices may be increasing or decreasing at different rates. Hence, the industry or economy-wide aggregate stock estimate will be subject to index-number ambiguities over time.

So far attention has been paid to the validity of market price valuations of the components of the stock (on the assumption that such market prices exist) and to index-number ambiguities. Whether or not adequate market prices exist, whether or not the imputations, necessitated by the absence of market prices, are satisfactory and what is the extent of the index-number ambiguity are essential empirical questions. The foregoing analysis has assumed that components of the stock (plant, machines, etc.) are identical over time and that the technology used to produce capital goods or the technology in which capital goods collaborate with other inputs to produce output remains unchanged over time. These assumptions must now be relaxed and an appraisal made of how their relaxation affects the validity of the measurement of capital stock.

If capital goods are being improved, then some change in their characteristics and saleable qualities must occur. [The fact that some firm may learn to utilize a given piece of plant equipment, etc., more effectively does not mean that the quality of the capital good itself has improved.] Also, it will most likely be the case that the inputs and techniques used to produce the changed capital good will themselves change.

Market prices for both old and new capital goods may be available and current dollar evaluation of existing stocks possible. As shown, however, current dollar evaluations entail the possibility of unrealized capital gains and losses being part of the change in such net stock estimates. In terms of constant dollars, there emerges the problem of how to relate and compare the old and new machines.

There is no straightforward answer to this problem. It is incorrect to value, without investigation the new machine at the price of the old machine. Two main approches have been suggested: (i) comparing the two machines in terms of their respective abilities to contribute to production or (ii) comparing them in terms of their respective cost of production.

To examine the first approach, assume, for example, that the purchasing firm's selling price and prime costs per unit of output are expected to remain unchanged. The firm will pay a higher price for the new machine if its expected profit rate would be raised by using the new machine, i.e., if output is increased. The relationship between the expected value of the increased output resulting from the new machine and the price for it which ensures a competitive return, is determined, under the assumed conditions, by the rate of discount.[6] But it is not easy to derive the appropriate discount rate.[7] Moreover, the effects of the introduction of the new machine will spread to other firms and to all parts of the system as real resources begin to flow in different directions and as the system adjusts to disturbed profit rates.[8] It becomes difficult, if not impossible, to obtain even reasonably approximate estimates of the change in the quantity of new machines in terms of their respective contributions to output in such cases. The firm itself will know that its estimate about the improved profits to be gained from buying the new machine is, at best, somewhat of a guess. For the social accountant, the constant dollar value of the changing stock of capital under such conditions, when full recognition is paid to the equilibrium and economy-wide impacts of the introduction of new capital goods, will be extremely difficult to

[5] Index-number problems confronting constant price measurement of aggregate flows such as constant dollar gross fixed capital formation are well known. If the commodity composition of the flow alters over time as well as the relative prices of new capital goods, the constant dollar measure becomes increasingly imprecise the farther and farther away it gets from the base period. Since the constant dollar net stock estimates are obtained in effect by adding and subtracting constant dollar flows, the stock estimates will suffer from index-number ambiguity on two counts: (i) that associated with the flows; and (ii) that associated with the changing age composition and changing relative prices of all ages of stock of capital goods.

[6] It would clearly be fallacious to argue that, all other things being equal, the increase in the technical capacity, that is, the horse-power, or weight-lifting ability, etc., of the new machine should be taken as a measure of how much more machine it is than the old machine. The value of a thirty-ton crane is not necessarily twice that of a fifteen-ton crane.

[7] If competitive equilibrium had prevailed before the introduction of the new machine, the equilibrium rate of interest (i.e., the discount rate) which prevailed is altered. Hence, it is not possible to derive the present value of the gross surplus which, it is expected, will accrue to the new machine.

[8] Suppose, as a different example, the new machine freed labour in the purchasing industry. The price of the new machine would rise as profits in using it rise while labour is released for use elsewhere. How much more machine is the new machine in relation to its improved ability to contribute to economic production in this case? One would have to determine the value of the alternative uses of the freed labour as it flows to other activities in the economic system. On this point, which is clearly just one example from a host of similar cases, see E.F. Denison, "Theoretical aspects of quality change, capital consumption and net capital formation", in *Problems of Capital Formation: Concepts, Measurement and Controlling Factors* (Princeton: Princeton University Press for the NBER, Inc., 1957).

estimate when such stock estimates are supposed to bear some relationship to the productivity of the stock.[9]

The alternative approach is to value old and new machines in terms of their respective costs of production. If the quantities of inputs used to produce the two machines are the same, it would appear possible to argue that the two machines are equal in terms of the resource-cost involved in producing them. There are difficulties confronting this approach as well.

(i) If techniques of production are improving in the machine-making industry, then the input cost of the new machine may be equal to the old simply because it is being produced more efficiently whereas under constant techniques (either old or new) the old machine might well cost less to produce, in terms of quantities of input, than the new.[10] In this case, it could be argued that (a) estimating the stock of machines in terms of what it would cost to produce under the old technology, the stock has increased, or that (b) taking cognizance of the changing techniques, the resource-cost (in terms of the base period primary input requirements) of the two machines are identical.[11]

(ii) To estimate the comparative input costs of machines, one should also be able to quantify that real input which gives rise to profits. Profits, from the economist's viewpoint, are a return which emanate from the fact that the economic system is not in perfectly competitive equilibrium. The quantification of that which gives rise to profits is virtually impossible by the nature of the problem.

(iii) If an attempt is being made to measure the stock of capital in terms of its 1949 reproduction costs, then when in (say) 1960, a new machine is produced, it may not be meaningful to ask what it would have cost to produce in 1949. Indeed, the further one moves from the base year whose relative prices and costs of production are taken as the measuring rods, the less and less meaningful the question is for all machines, old and new. This is particularly true for new machines since, in all likelihood, the changes in techniques which have occurred between 1949 and 1960 would mean that the new machine just could not have been produced at all in the earlier year.

Thus it becomes extremely difficult to arrive at a meaningful evaluation of old and new model machines in terms of all their input costs.

In general, then, even where market prices for all capital goods of all ages were available, and when techniques of production and use of capital goods were changing and the goods themselves were improving, in some sense, in their ability to contribute to production, we arrive at the following conclusions:

(i) current dollar gross and net stock estimates could be easily constructed. As shown, however, changes in such stock estimates include unrealized capital gains and losses. Thus, for certain analytical purposes, such stock estimates could not be used. Furthermore, current dollar net fixed capital formation and capital consumption allowances could not be derived from these stock estimates;

(ii) constant dollar capital stock and flow estimates suffer from considerable ambiguity. The only feasible but unsatisfactory approach is to attempt such evaluations in terms of some base year reproduction costs of capital goods even when techniques of production and the "productiveness" of capital goods are changing over time. The gross stock of capital in years beyond the base year will include new machines added to the stock and estimated in terms of their cost of production in the base period. In the net stock data, could one value new machines when they became one, two and three years old in terms of the prices of machines one, two and three years old in 1949? To illustrate this problem, consider the following exemplary data. In 1949, the market prices of Model A machine, according to age, are as follows:

	1949
	$
Market prices of Model A:	
New	100
One year old	75
Two years old	50

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[9] For some purposes of analysis, it may be undesirable that the qualitative improvement in capital goods resulting from technical change should be "embodied" in measures of the stock of capital goods. One may want such improvements to show up in "output per unit of input" calculations rather than in the inputs themselves. Professor Solow, on the ground of analyzing rates of return to investment and the re-allocation of the labour force and resources in general which must accompany qualitative improvements in machines, wishes to "embody" some part of improvements in techniques into the stock of capital. See R.M. Solow, *Capital Theory and the Rate of Return* (Amsterdam: North-Holland Publishing Company; 1963). For theoretical criticism of Solow's point of view, see Joan Robinson, "Solow on the Rate of Return", *Economic Journal*, Vol. LXXIV, (June, 1964), pp. 410-417.

[10] If the switch in techniques used to produce machines were such as to make the cost of the new machine greater than the old under old techniques and less under new techniques, we are involved in familiar index-number problems.

[11] The latter alternative must also take account of the improvements in efficiency in producing the materials used by the machine-making industry in making the new machine. The alternative of evaluating the stock of capital in terms of its constant dollar primary input reproduction requirements taking into account changing techniques over time in all the interrelated industries of an economy is advanced by Professor L.M. Read, of Carleton University, in an unpublished paper, "The Measurement of Total Factor Productivity", DBS (June 15, 1961).

In 1956, Model B machine is introduced and Model A is last produced in 1955. We might then have

	1955	1956	1957
	dollars		
Market prices of Model A:			
New	100		
One year old	75	65	
Two years old	50	35	35

	1956	1957	1958
	dollars		
Market prices of Model B:			
New	100	100	100
One year old		70	70
Two years old			45

If, on the basis of costs of production under conditions of technology prevailing in 1955, it had been ascertained that Model B would have cost $110, then the hypothetical 1949 market price of Model B would have been set at $110.

Can it now be assumed that the 1949 dollar reproduction cost of Model B, when one year old is

$$110 \times \frac{75}{100} = 82.5$$

which would use the market price relationship between new and one year old machines which existed in 1949? Or should the 1949 dollar reproduction cost of Model B, when one year old, be

$$110 \times \frac{70}{100} = 77.0$$

using the market price relationship between new and one year old machines in 1957? The constant 1949 net stock estimates (assuming 1 machine in each age group) would under both assumptions be as follows:

Assumption 1

1949	1955	1956	1957	1958
$225	$225	$235	$242.5	$247.5

Assumption 2

1949	1955	1956	1957	1958
$225	$225	$235	$237	$236.5

Assumption 1 is the more appropriate since in Assumption 2 relative market prices of the different ages of Models B are allowed to affect the valuation, and one wishes to escape, via the constant dollar procedure, the problem of changing relative values. But clearly an index-number ambiguity is thus built into the measure of the constant dollar net stock. It will be true that under these procedures for the handling of new capital goods, the direction which the estimates of capital consumption allowances in constant dollars take will be affected. Since, however, the constant dollar estimates of gross fixed capital formation will be affected in the same direction, the net fixed capital formation estimates (the net additions to the stock of capital in terms of its base period reproduction costs) will tend to be correct. It must be remembered, however, that such measures of capital consumption and net fixed capital formation will be in terms of reproduction costs at base period prices under base period conditions of technology. They will not be in terms of reproduction costs at base period prices under current period conditions of technology. Thus, if one were asked what resources, valued in terms of 1949 dollars, would be required within the current technological environment to make up for the declines in the value of capital goods due to wear and tear, aging and obsolescence, one would answer that the correct value would be lower than the values obtained by such procedures indicated above, if new machines are produced under improving techniques of production;

(iii) original cost dollar evaluations of capital flows and stocks, as already indicated, are valued at heterogeneous prices over time and have no conceptual foundation or analytical usefulness (save for those outlined below).

In summary, were the history of each individual capital good in the system available, complete with price and age data, fairly reliable estimates of capital formation and capital stock could be produced. Obviously, complete price and age data for each capital good in the economic system are not available. For most types of new capital goods, prices or costs are available but for goods older than new, there is almost no useful information available in Canada. For certain types of capital goods, market prices for older than new goods do exist. Owner-estimated values of some parts of the stock of housing and the stock of fixed capital in Agriculture are available. For industrial types of capital goods, market prices are periodically obtained in markets of second-hand capital goods while revaluations for (say) fire insurance purposes and estimated replacement cost valuations made for claims purposes under fire insurance contracts can be obtained. These latter data, however, have not yet been systematically gathered and examined and tested by the Dominion Bureau of Statistics. It was decided that the experimental estimates presented in this report should first be produced and then at a later date, when resources would permit, a thorough examination of these sources of information on capital goods should be undertaken.

(b) Actual Measurement Procedure

The actual measurement procedure adopted in Canada by the Dominion Bureau of Statistics to measure the stock of fixed reproducible capital in the economy is known as the "perpetual inventory" method. This method was fully developed by Raymond

Goldsmith in the U.S.A.,[12] used by Redfern in the U.K.[13] and adopted by the Central Statistical Office (at least for purposes of estimating capital consumption allowances),[14] by Hood and Scott in their pioneering study for Canada[15] and by other researchers in other countries.[16] At present, with the resources available, it would appear to be the only feasible method of obtaining the type of estimates desired.

The "perpetual inventory" method of measuring the stock of fixed capital requires three basic building blocks;

(i) historical time series of current dollar gross fixed capital formation for similar types of capital goods purchased by the industries for which stock measurement is being attempted;

(ii) price indexes pertaining to the types of capital goods for which current dollar gross fixed capital formation data exist; and

(iii) data on the "average economic life" of capital goods, i.e., the length of time which, on average, similar capital goods remain in useful economic production before discarding or scrapping occurs.

The mechanics of the "perpetual inventory" method of measuring the stock of fixed reproducible capital by industry are straightforward. Generally speaking, what is involved is the addition over a period of years of purchases of capital goods by an industry to derive its capital stock in any particular year. More specifically, assume that a particular industry uses machinery and equipment which will remain in productive service, until scrapped or discarded, for (say) an average of twenty years. If purchases of such capital goods (i.e., gross fixed capital formation), adjusted for the changing average prices of such new machinery and equipment, are cumulated for a period of twenty years, then, in the twentieth year, a measure of the **gross stock** of this industry's machinery and equipment is derived. In the twenty-first year, the machinery and equipment purchased in the first year is deemed to be withdrawn from the stock while that purchased in the twenty-first year is added. This procedure is then repeated for all subsequent years. Hence the name "perpetual inventory" method. If depreciation rates are applied against the resulting gross stock estimates, then annual values of depreciation or consumption allowances can also be derived. When, year by year, capital consumption allowances are subtracted from the gross fixed capital formation data, then the increase in the stock of machinery and equipment, adjusted for wear and tear and obsolescence undergone by the existing capital goods (i.e., net fixed capital formation) is also measured. Cumulation of these net fixed capital formation estimates permits the estimation of the **net stock** of capital which, in each year, will be equal to the **gross stock** of capital less accumulated capital consumption allowances over the past twenty years.

A more complete understanding of the "perpetual inventory" method of the measurement of the stock of fixed reproducible capital by industry can perhaps be gained if a more detailed step by step exposition of the procedure is outlined. Assume that we are concerned with the machinery and equipment stock of a particular industry. The procedure then is as follows:

Step 1. Obtain, or, if necessary, estimate a time series of current dollar gross fixed capital formation for the machinery and equipment of the industry. How far back into time that series is required to run is a function, of the assumed "average economic life" of the machinery and equipment and the year for which it is desirable to open with stock estimates.

Step 2. Obtain, or again, if necessary, construct a price index of capital goods whose commodity coverage is similar to that for the current dollar gross fixed capital formation series. Ideally, the required price index should be a Paasche or currently-weighted price index.

Step 3. The current dollar gross fixed capital formation series is then deflated. That is, the current dollar gross fixed capital formation data are divided through by the price index to derive capital formation expressed in terms of the average prices of capital goods in the year which is the time reference base of the price index. This deflation procedure is necessary to prevent the subsequent cumulation of the gross fixed capital formation data from resulting in stock estimates being valued in terms of all the different levels of average prices of new machinery and equipment which existed over the historical period, that is, in terms of original cost.

Step 4. On the basis of such data as exist, it is assumed that machinery and equipment used by this industry have an "average economic life" of twenty years. It is assumed that capital goods installed by the industry in year one remain in the stock until the twenty-first year at which time they are withdrawn

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[12] R.W. Goldsmith, "Measuring National Wealth in a System of Social Accounting" *Studies in Income and Wealth*, National Bureau of Economic Research, Vol XII (New York: NBER, 1950); "A Perpetual Inventory of National Wealth", *Studies in Income and Wealth*, National Bureau of Economic Research, Vol. XIV (New York: NBER, 1951); "The Growth of Reproducible Wealth of the United States: Trends and Structure", Income and Wealth, Series II of the International Association for Research in Income and Wealth (Cambridge: Bowes and Bowes Ltd., 1961); *A Study of Saving in the United States*, esp. Vols. II and III (Princeton: Princeton University Press, 1955); *The National Wealth of the United States in the Postwar Period* (Princeton: Princeton University Press for the NBER, 1962); and with R.E. Lipsey, *Studies in the National Balance Sheet of the United States*, esp. Vol. I (Princeton: Princeton University Press for the NBER, 1963).

[13] P. Redfern, "Net Investment in fixed assets in the United Kingdom, 1938-1942", *Journal of the Royal Statistical Society* CXVIII, (Series A) 1955 No. 2, pp. 141-192.

[14] See, for example, the U.K. "Blue Book" *National Income and Expenditure 1958* published by the Central Statistical Office (London: HMSO, 1958).

[15] Wm. C. Hood and A. Scott, *op. cit.*

[16] See the different estimates for a number of countries found in *The Measurement of National Wealth* (eds. R.W. Goldsmith and C. Saunders), Income and Wealth Series VIII of the International Association for Research in Income and Wealth (London: Bowes and Bowes Ltd., 1959).

from the stock. Thus, if the constant dollar gross fixed capital formation data are accumulated for twenty years, then at the end of the twentieth year, a measure of the gross stock of machinery and equipment is derived. For subsequent years, the new additions in each year are added to the stock while additions which were made twenty years ago are deducted.

Step 5. The assumed "average economic life" of the machinery and equipment implies that by the time it is discarded or scrapped the machinery and equipment installed twenty years ago has negligible market value. Some way must be found to write off this decline in the value of machinery and equipment over its life. As it is well known, any particular method of depreciation is arbitrary. Many variants are possible. The estimates presented in this report have been prepared by means of using the "straight-line" method of calculating depreciation. This is done by assuming that one twentieth of the gross stock of capital each year will provide an estimate of the constant dollar value by which the stock declines in value each year. Application of the assumed depreciation function thus yields annual estimates of constant dollar capital consumption allowances.

Step 6. Subtract the estimates of capital consumption allowances from the estimates of constant dollar gross fixed capital formation year by year. The result is a measure of the addition to the stock of

TABLE 1. An exemplary Illustration of the Perpetural Inventory Method of Fixed Capital Stock Measurement
Assumed Average Economic Life = 5 years

Year	(1) Current dollars gross fixed capital formation	(2) Mid-year price index year 20 = 1.000	(3) Constant year 20 dollars gross fixed capital formation (1) ÷ (2)	(4) Withdrawals Col. (3) lagged 5 years	(5) Additions to gross stock ΔK^G (3) – (4)	(6) End-year gross stock K^G_{et} Σ (5)	(7) Capital consumption allowances $\frac{1}{2L}\left[K^G_{et} + K^G_{et-1}\right]$	(8) Net fixed capital formation ΔK^N (3) – (7)
1	0.3	0.698	0.4		0.4	0.4		0.4
2	1.7	0.704	2.4		2.4	2.8	0.3	2.1
3	4.2	0.743	5.7		5.7	8.5	1.1	4.6
4	7.9	0.831	9.5		9.5	18.0	2.7	6.8
5	11.1	0.907	12.2		12.2	30.2	4.8	7.4
6	13.3	0.907	14.7	0.4	14.3	44.5	7.5	7.2
7	16.0	0.907	17.6	2.4	15.2	59.7	10.4	7.2
8	19.2	0.907	21.2	5.7	15.5	75.2	13.5	7.7
9	23.0	0.907	25.4	9.5	15.9	91.1	16.6	8.8
10	27.6	0.907	30.4	12.2	18.2	109.3	20.0	10.4
11	33.1	0.907	36.5	14.7	21.8	131.1	24.0	12.5
12	39.8	0.907	43.9	17.6	26.3	157.4	28.8	15.0
13	47.7	0.907	52.6	21.2	31.4	188.8	34.6	18.0
14	57.3	0.907	63.2	25.4	37.8	226.6	41.5	21.7
15	68.7	0.907	75.7	30.4	45.3	271.9	49.8	25.8
16	70.1	0.926	75.7	36.5	39.2	311.1	58.3	17.4
17	71.5	0.944	75.7	43.9	31.8	342.9	65.4	10.3
18	72.9	0.962	75.8	52.6	23.2	366.1	70.9	4.9
19	74.4	0.982	75.8	63.2	12.6	378.7	74.5	1.3
20	75.8	1.000	75.8	75.7	0.1	378.8	75.8	–
21	73.0	1.027	71.1	75.7	– 4.6	374.2	75.3	– 4.2
22	64.1	1.086	59.0	75.7	– 16.7	357.5	73.2	– 14.2
23	50.0	1.100	45.5	75.8	– 30.3	327.2	68.5	– 23.0
24	41.0	1.174	34.9	75.8	– 40.9	286.3	61.4	– 26.4
25	37.8	1.213	31.2	75.8	– 44.6	241.7	52.8	– 21.6
26	24.3	1.222	19.9	71.1	– 51.2	190.5	43.2	– 23.3
27	17.8	1.347	13.2	59.0	– 45.8	144.7	33.5	– 20.3
28	5.4	1.405	3.8	45.5	– 41.7	103.0	24.8	– 21.0
29	0.9	1.445	0.6	34.9	– 34.3	68.7	17.2	– 16.6
30	0.0	1.500	–	31.2	– 31.2	37.5	10.6	– 10.6
31	0.0	1.613	–	19.9	– 19.9	17.6	5.5	– 5.5
32	0.0	1.724	–	13.2	– 13.2	4.4	2.2	– 2.2
33	0.0	1.725	–	3.8	– 3.8	0.6	0.5	– 0.5
34	0.0	1.817	–	0.6	– 0.6	–	0.1	– 0.1
35	0.0	1.863	–	–	–	–	–	–

Note: Data are illustrative only.

machinery and equipment in constant dollars after allowance, admittedly arbitrary, has been made for the effects of wear and tear, aging and obsolescence on the value of the existing stock. These estimates are called net fixed capital formation in constant dollars.

Step 7. If the resulting net fixed capital formation estimates are cumulated over time, then an estimate of the net stock of machinery and equipment in each year is derived. That is, an estimate is thereby attempted of the constant dollar or base period valuation which would have been placed on the stock after the market had made due allowance for the condition, age and the relative efficiency of the various instruments making up the stock.

It should be noted that minor operations are performed during the drill to (i) centre the estimates of capital consumption allowances, and (ii) to adjust the stock estimates, which relate to the end of each calendar year, to the middle of each calendar year.

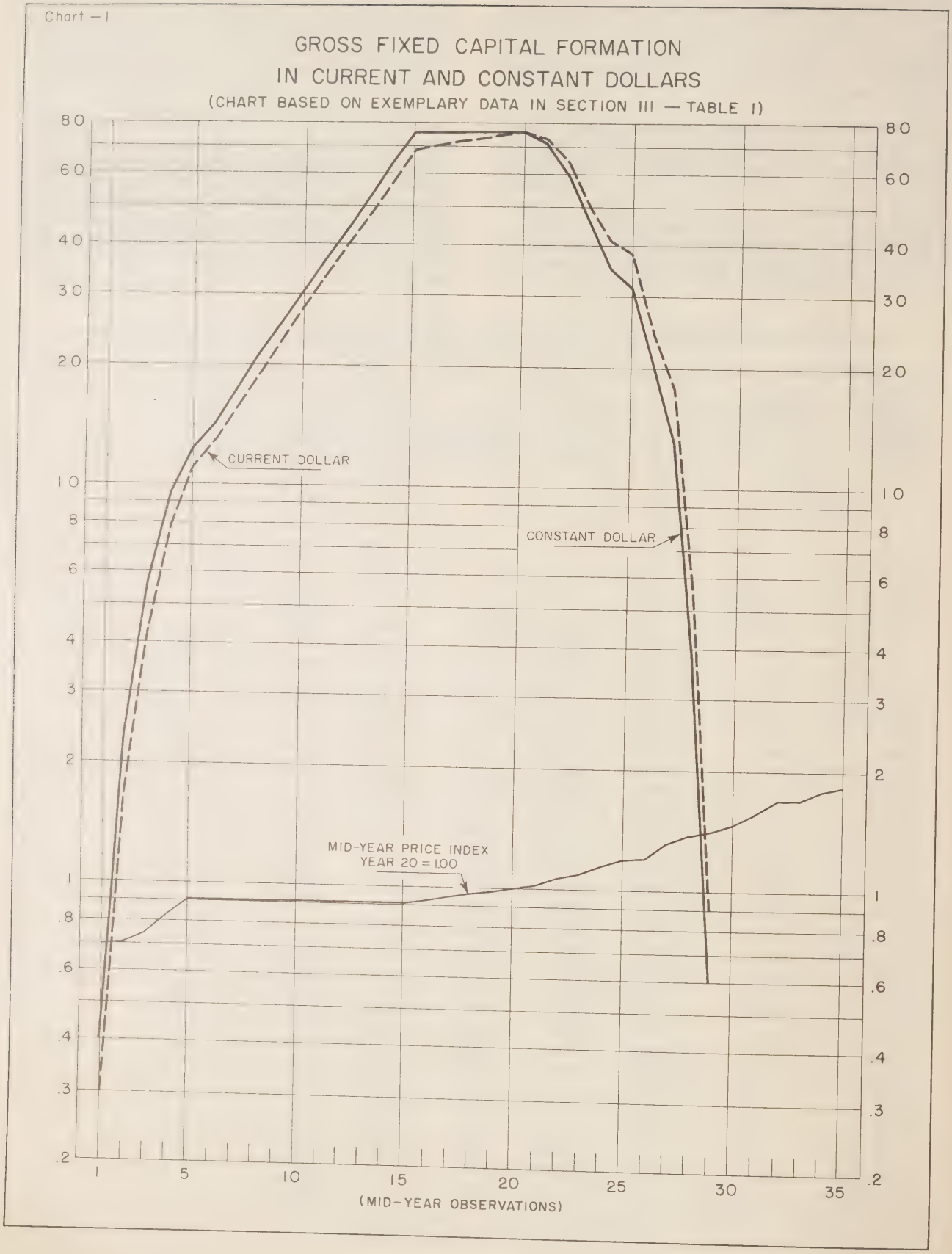
From the estimates which result from the basic steps described above, it is possible (i) to convert all the constant dollar estimates into current dollars, and (ii) by taking out the deflation part of the drill, to produce the capital flow and stock estimates in terms of original cost dollars. Section III, Table 1 and accompanying charts which follow consist of an exemplary illustration of the "perpetual inventory" method. Appendix I outlines the method more formally.

TABLE 1. An Exemplary Illustration of the Perpetual Inventory Method of Fixed Capital Stock Measurement
Assumed Average Economic Life = 5 years

(9) End-year net stock K^N_{et} Σ (8)	(10) Mid-year gross stock K^G_{mt} $\frac{K^G_{et}+K^G_{et-1}}{2}$	(11) Mid-year net stock K^N_{mt} $\frac{K^N_{et}+K^N_{et-1}}{2}$	(12) Current dollar mid-year gross stock (2) x (10)	(13) Current dollar mid-year net stock (2) x (11)	(14) Current dollar capital consumption allowances (2) x (7)	(15) Current dollar net fixed capital formation (2) x (8)	(16) Current net fixed capital formation (1) – (14) = (15) check column	Year
0.4	–	–	–	–	–	–	–	1
2.5	–	–	–	–	–	–	–	2
7.1	–	–	–	–	–	–	–	3
13.9	–	–	–	–	–	–	–	4
21.3	–	–	–	–	–	–	–	5
28.5	37.4	24.9	33.9	22.6	6.8	6.5	6.5	6
35.7	52.1	32.1	47.3	29.1	9.4	6.5	6.6	7
43.4	67.4	39.6	61.1	35.9	12.2	7.0	7.0	8
52.2	83.2	47.8	75.5	43.4	15.1	8.0	7.9	9
62.6	100.2	57.4	90.9	52.1	18.1	9.4	9.5	10
75.1	120.2	68.8	109.0	62.4	21.8	11.3	11.3	11
90.1	144.2	82.6	130.8	74.9	26.1	13.6	13.7	12
108.1	173.1	99.1	157.0	89.9	31.4	16.3	16.3	13
129.8	207.7	118.9	188.4	107.8	37.6	19.7	19.7	14
155.6	249.2	142.7	226.0	129.4	45.2	23.4	23.5	15
173.0	291.5	164.3	269.9	152.1	54.0	16.1	16.1	16
183.3	327.0	178.2	308.7	168.2	61.7	9.7	9.8	17
188.2	354.5	185.8	341.0	178.7	68.2	4.7	4.7	18
189.5	372.4	188.8	365.7	185.4	73.2	1.3	1.2	19
189.5	378.8	189.5	378.8	189.5	75.8	–	–	20
185.3	376.5	187.4	386.7	192.5	77.3	– 4.3	– 4.3	21
171.1	365.8	178.2	397.3	193.5	79.5	– 15.4	– 15.4	22
148.1	342.4	159.6	376.6	175.6	75.4	– 25.3	– 25.4	23
121.7	306.8	134.9	360.2	158.4	72.1	– 31.0	– 31.1	24
100.1	264.0	110.9	320.2	134.5	64.0	– 26.2	– 26.2	25
76.8	216.1	88.4	264.1	108.0	52.8	– 28.5	– 28.5	26
56.5	167.6	66.6	225.8	89.7	45.1	– 27.3	– 27.3	27
35.5	123.9	46.0	174.1	64.6	34.8	– 29.5	– 29.4	28
18.9	85.8	27.2	124.0	39.3	24.9	– 24.0	– 24.0	29
8.3	53.1	13.6	79.6	20.4	15.9	– 15.9	– 15.9	30
2.8	27.6	5.6	44.5	9.0	8.9	– 8.9	– 8.9	31
0.6	11.0	1.7	19.0	2.9	3.8	– 3.8	– 3.8	32
0.1	2.5	0.4	4.3	0.7	0.9	– 0.9	– 0.9	33
0.0	–	0.0	–	0.0	0.2	– 0.2	– 0.2	34
–	–	0.0	–	0.0	–	–	–	35

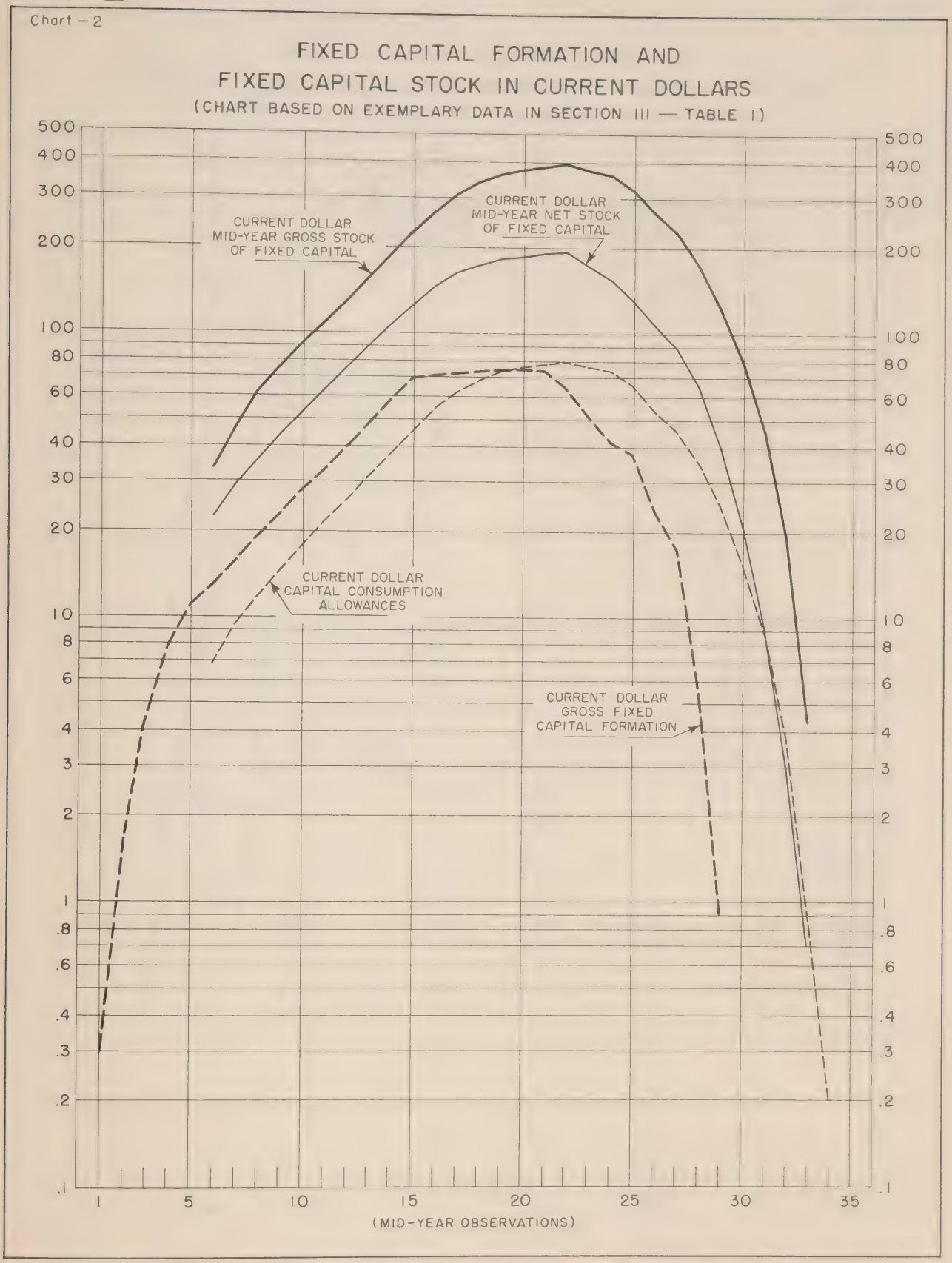
SECTION – III

Chart – I



SECTION – III

Chart – 2

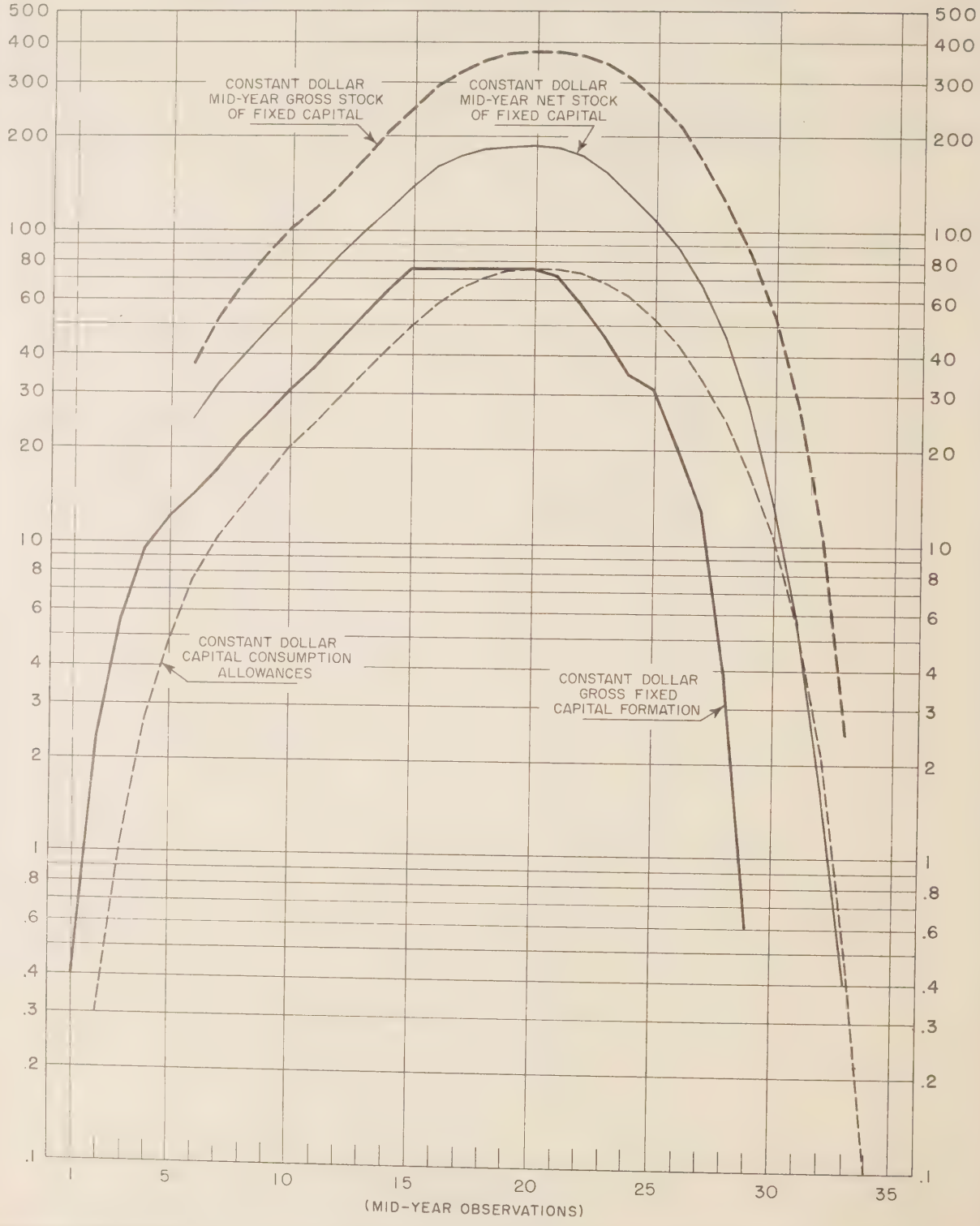


SECTION – III

Chart – 3

FIXED CAPITAL FORMATION AND FIXED CAPITAL STOCK IN CONSTANT DOLLARS

(CHART BASED ON EXEMPLARY DATA IN SECTION III — TABLE I)

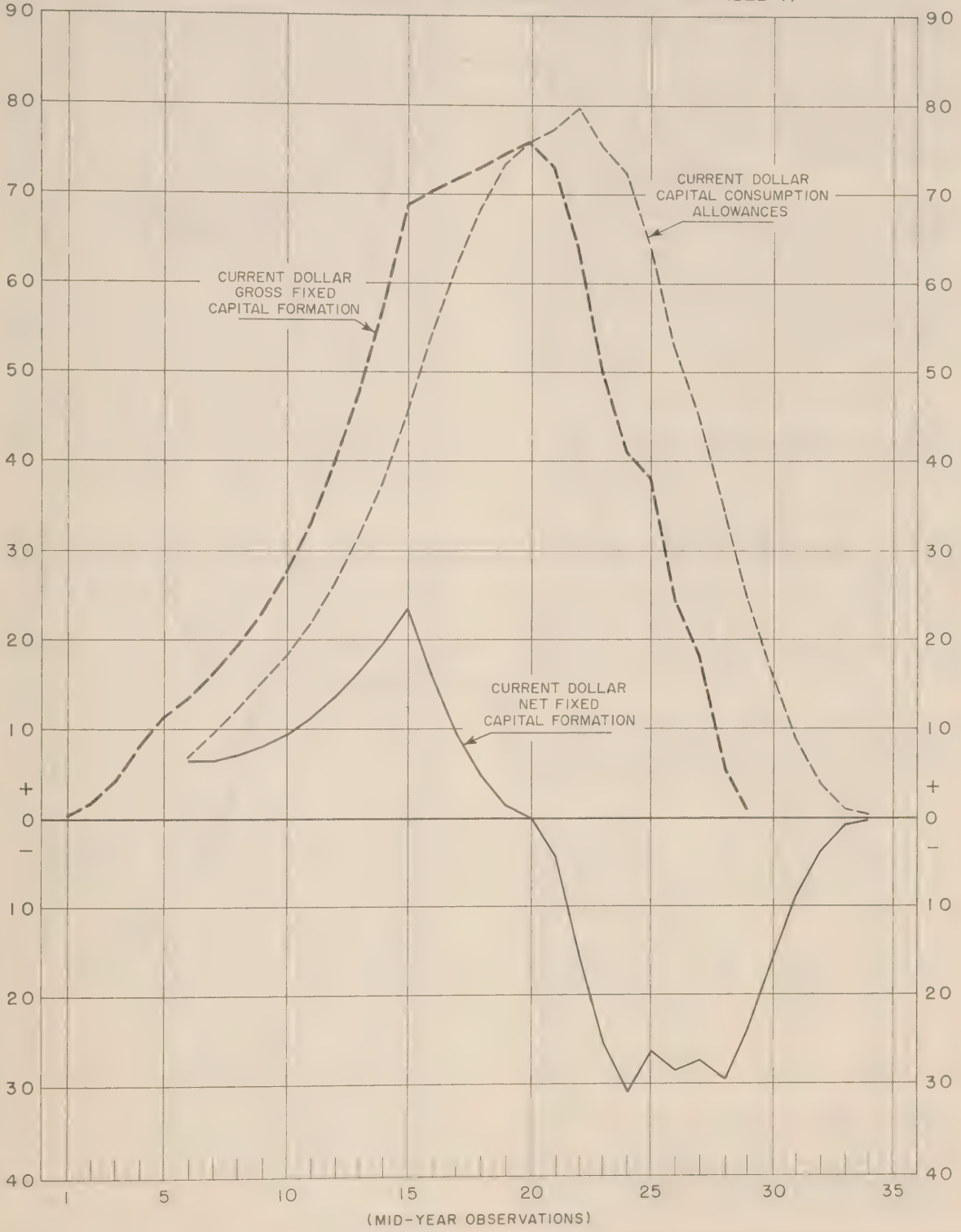


SECTION – III

Chart – 4

FIXED CAPITAL FORMATION AND CAPITAL CONSUMPTION ALLOWANCES IN CURRENT DOLLARS

(CHART BASED ON EXEMPLARY DATA IN SECTION III — TABLE I)

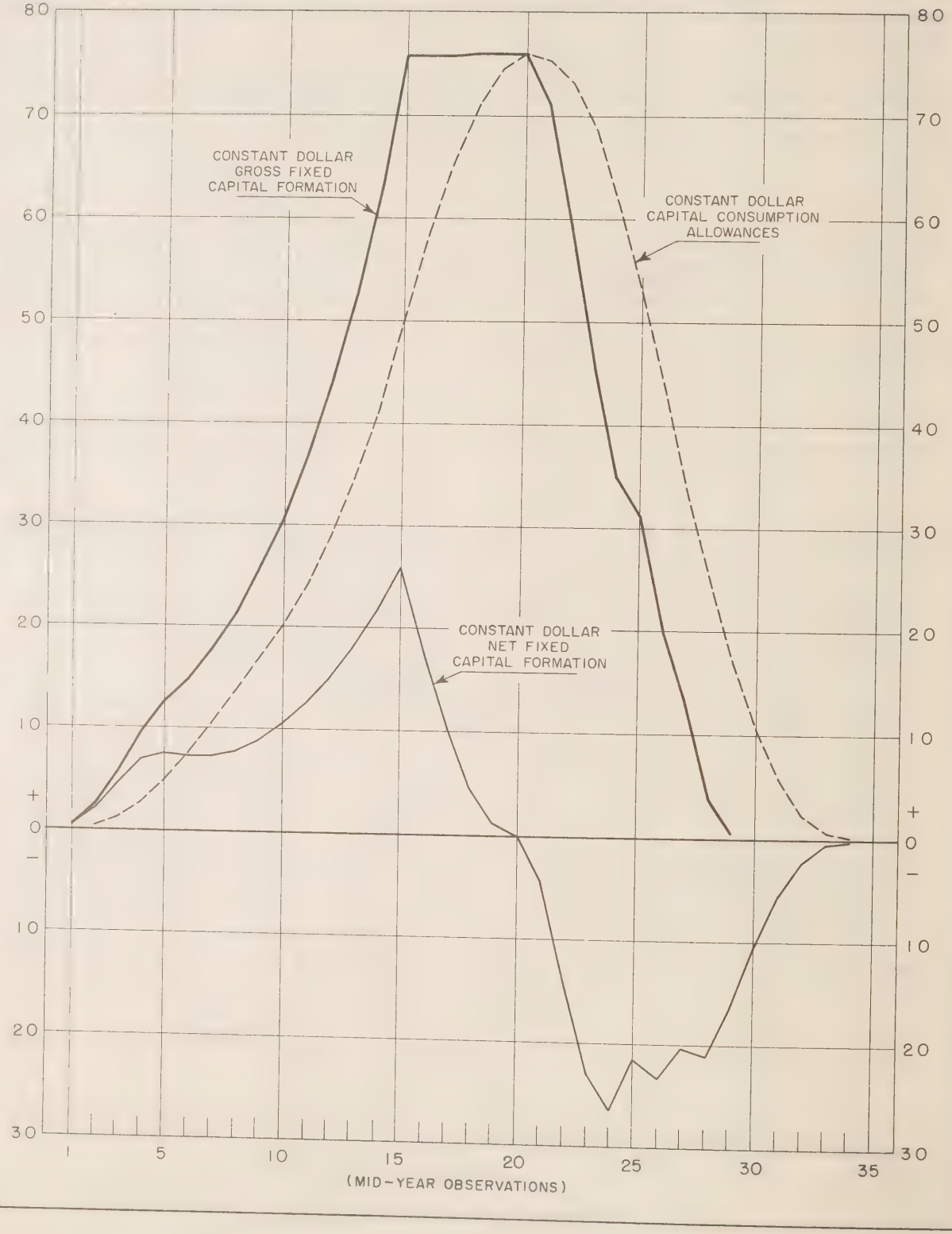


SECTION – III

Chart – 5

FIXED CAPITAL FORMATION AND CAPITAL CONSUMPTION ALLOWANCES IN CONSTANT DOLLARS

(CHART BASED ON EXEMPLARY DATA IN SECTION III – TABLE I)



To illustrate how far this method of measuring the stock of fixed capital by industry differs from that which would be desired, it is contrasted with the ideal method set out earlier in this section.

(i) The estimates of current dollar gross fixed capital formation used in this report refer to purchases by industry of new capital goods plus purchases of used imported capital goods. If the prices of second-hand capital goods for each component of the age distribution move with the prices of new capital goods over time, it may not be erroneous to carry out the deflation using price indexes which refer to new capital goods only. Clearly, it is more likely that the prices of new and used capital goods move differently, certainly over short-run fluctuations in the level of economic activity and probably over the long-run as well. Furthermore, in the estimates of current dollar gross fixed capital formation used in this report, no account is taken of purchases of existing capital goods from other domestic industries, nor is any deduction made for the sales of existing fixed capital goods or the terminal value of capital goods when they are scrapped or discarded. Should such data become available on a comprehensive and usable basis in the future, then it would appear that the deflation of all these different components of such a revised definition of gross fixed capital formation would have to be carried out separately.

(ii) Price indexes seldom measure precisely the changes in the prices of a heterogeneous class of goods and services. Ideally, the price indexes should be of the Paasche or currently-weighted type. Such price indexes are rarely, if ever, available for current up-to-date deflation routines, though with the development of various electronic aids in the construction of price indexes, the continual revision in weights which is necessary in the construction of Paasche indexes should become less administratively burdensome than it was in the past. In this report, with some minor exceptions noted in the Section on the derivation of the price indexes of machinery and equipment, Laspeyres indexes were used to convert current dollar estimates into constant dollar estimates. If deflation with Laspeyres indexes is carried out at a sufficiently detailed level, the resulting constant dollar measures of gross fixed capital formation will approach the base-period price (i.e., 1949 or 1957) weighted constant dollar measures desired. The Laspeyres indexes used in this report are, however, constructed to relate to fairly broad current dollar aggregates. Hence, to the extent that Laspeyres and Paasche indexes would show divergent movements for these aggregates, the resulting constant dollar aggregates do not unambiguously employ the 1949 or 1957 relative prices of new capital goods as weights.

(iii) Constant dollar aggregates are current period quantities weighted by base period relative prices. Relative prices are not stable and from time to time it is necessary to shift to more current relative prices in the estimation of constant dollar aggregates.

The resulting constant dollar aggregate time series are then chained together at the component and aggregate levels and may, with adjusting entries for the aggregate arising from the re-weighting procedure, be expressed in terms of a common time base.[17] This chaining procedure is easily understood when constant dollars flow data (with changing price weights) are being constructed. It is more difficult to chain constant dollar estimates where stocks, **emanating from its "perpetual inventory" method,** are concerned.

The estimates of constant dollar gross fixed capital formation presented in this report are in terms of 1949 and 1957 relative prices. To compare the constant 1949 dollar data with that found in the Canadian National Accounts,[18] it is necessary that the estimates presented here be "linked" in 1956 to the constant 1957 dollar estimates also found in this report. For the convenience of interested researchers, this "linking" is performed in Appendix II.

As stated, to prepare chained Laspeyres constant dollar stock estimates derived from the "perpetual inventory" method is more difficult. For capital goods with long "average economic lives", it is necessary to cumulate lengthy time series of constant dollar gross fixed capital formation. If such data are in **chained** Laspeyres form, then the resulting stock estimates represent a stock of capital goods which have been weighted together not with one year's relative prices but with several different year's relative prices. If the constant dollar gross fixed capital

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[17] This procedure is explained in DBS Catalogue No. 13-501 *National Accounts Income and Expenditure 1926-1956*, Section E. Consider the following example. A two component aggregate is being measured in (say) constant 1949 and 1957 dollars.

		1949	1956	1957
First component:				
Quantity	No.	100	90	80
Price 1949	$	1.00		
Price 1957	$	1.50		
Constant 1949 dollars		100.00	90.00	80.00
Constant 1957 dollars			135.00	120.00
Second component:				
Quantity	No.	50	51	55
Price 1949	$	1.50		
Price 1957	$	1.00		
Constant 1949 dollars		75.00	76.50	82.50
Constant 1957 dollars			51.00	55.00
Aggregate:				
Constant 1949 dollars		175.00	166.50	156.65
Constant 1957 dollars			186.00	175.00

The aggregate constant 1949 dollar figure for 1957, estimated by extrapolating forward from 1956 to 1957 on the basis of the aggregate constant 1957 dollar data, is $156.65. When the same procedure is followed for the individual components, the aggregate constant 1949 dollar figure for 1957 is $80.00 + $82.50 = $162.50, necessitating an adjusting entry to the constant 1949 dollar data in 1957 of $-5.85.

[18] See DBS Catalogue No. 13-201 *National Accounts Income and Expenditure 1963*, Table 56.

formation data were in annual chained Laspeyres form, then the resulting stock data would become extremely difficult to interpret meaningfully.[19] The chaining of constant 1949 and 1957 dollar stock estimates together does not overcome the problem that in the link year 1956, both stock estimates will be applying weights (1949 and 1957 relative prices respectively) to capital goods which entered the stock many years previously. The root of the difficulty, of course, lies in the fact that any base period set of relative prices becomes less and less meaningful as weights the farther the current period is away from the base period.

In the unchained form the weights being attached to the change in quantities from period 1 to period 2 remain period 0 prices whereas in the chained form they shift to period 1 prices. From this example, it can be seen that cumulation of an annually chained Laspeyres constant dollar aggregate time series will lead to a large number of relative prices being used as weights.

It is probably true to say, however, that the movement of prices of capital goods has been so generally similar that the familiar index-number ambiguity which results when a long time series of gross fixed capital formation is expressed in the constant relative prices of a particular base year may not be too serious.

In the discussion of ideal measurement procedures, it was noted that changes in the "quality" of capital goods introduced an unavoidable element of ambiguity and imprecision into capital stock measurement even when complete histories of all capital goods were available. It was argued that the only feasible way to add old and new models of capital goods together was in terms of their respective costs of production under similar states of technology. In the actual measurement procedures, the price indexes for capital goods which have been used as deflators are generally adjusted, when price quotations for new models are introduced into the index, to account for the different costs of production of the new models, not for their different abilities to contribute to production. Hence, it can be argued that the resulting stock estimates presented in this report do not attempt to incorporate the qualitative improvements in the stock which emerge when, roughly speaking, more productive elements are added to it.[20]

(iv) The assumption used in preparing the estimates in this report that capital goods installed in the year t will all be discarded from the stock in the year t+L (where L is the assumed average economic life of capital goods) is clearly unrealistic. First, some of the goods originally installed will be discarded after only a few years of productive life while others will remain in the stock for a number of years beyond the assumed "average economic life". Even if the assumed average were the true mean life, variations in actual lives together with changes in the rate of change of gross fixed capital formation over time will produce different gross stock estimates from the ones which are produced here.[21] In all likelihood, the mean lives of capital goods change secularly and cyclically and the survival distributions alter in dispersion and skewness. If this is true, then together with the fact that the underlying time series constant dollar gross fixed capital formation display shifts in rates of change both secularly and cyclically, it becomes exceedingly difficult to arrive at any generally valid conclusions about how much realistic survival functions would affect the stock estimates presented in this report.

Clearly, the concept of the "average economic life" of any particular collection of capital goods is one to which it is impossible to attach great precision.[22] Yet, in general, capital goods of different

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[19] Consider the accumulation of a constant dollar aggregate flow estimate to (say) three years. If it is an unchained Laspeyres, the cumulated total will be $\Sigma P_0Q_0 + \Sigma P_0Q_1 + \Sigma P_0Q_2 = \Sigma P_0 (Q_0 + Q_1 + Q_2)$. If it is an annually chained Laspeyres, the cumulated total will be

$$\Sigma P_0Q_0 + \Sigma P_0Q_1 + \frac{\Sigma P_0Q_1 \times \Sigma P_1Q_2}{\Sigma P_1Q_1}$$

Comparing the two totals we have

Unchained

$$\Sigma P_0Q_0 + \Sigma P_0Q_1 \left[1 + \frac{\Sigma P_0Q_2}{\Sigma P_0Q_1} \right]$$

Chained

$$\Sigma P_0Q_0 + \Sigma P_0Q_1 \left[1 + \frac{\Sigma P_1Q_2}{\Sigma P_1Q_1} \right]$$

[20] See B.J. Emery and T.K. Rymes "Price indexes in a social accounting framework", eds. J. Henripin and A. Asimakopulos *Conferences on Statistics 1962 and 1963* (Toronto: University of Toronto Press, 1964). Further problems associated with the price indexes are discussed in Section IV of this report.

[21] In contrast to the survival function used in this report which implies that, for capital goods installed in the year 1, the percentage of survivors is equal to 100 per cent when less than L years have elapsed from year 1 and 0 per cent when L years have elapsed, survival functions incorporating more realistic retirement distributions such as skewed or unskewed bell-shaped functions can be employed. It has been shown (cf., E. Schiff, "Gross stocks estimated from past installations", *Review of Economics and Statistics*, XL, May 1958, pp. 174-177) that, under simplifying assumptions about the underlying pattern of gross fixed capital formation, the different gross stock estimates produced by the different survival functions will be a function of the rate of growth of capital formation and the assumed mean lives of capital goods concerned.

[22] A building, following original construction, will undergo major additions, renovation and alterations. Many complex machines undergo part-by-part replacement and renewal. In such cases, the "life" of the building or machine is really a composite of the lives of the component parts. See C.G. Edge, *A Practical Manual on the Appraisal of Capital Expenditure*, Revised Special Study No. 1, The Society of Industrial and Cost Accountants of Canada, Hamilton, 1960, pp. 83-84 wherein physical, technological and product market lives of capital goods are distinguished, with economic life being the shortest. See also Robert C. Wasson, "Some Problems in the Estimation of Service Lives of Fixed Capital Assets", in *Measuring the Nation's Wealth*, Studies in Income and Wealth, Vol. 29 (National Bureau of Economic Research, Washington, 1964) Appendix I: K. pp. 369-374.

types do remain in productive service before scrapping or discarding takes place for different lengths of time. Obviously, concrete dams will have longer lives than telephone poles or passenger vehicles. Nevertheless, data on such phenomena are exceedingly scarce and any particular set of lives would be hard to defend. With this in mind, the estimates presented in this report have been produced with a range of lives for each component. That is, for any industry, different estimates were prepared by assuming that the "average economic life" of machinery and equipment in that industry lasted (say), on average, L, L + x and L – x years. This was done to see how much the cyclical and secular changes in the stock and flow data presented in this report would be affected by the different life assumptions. Comment on what effect these different lives have is included in Section II of this report dealing with an evaluation of the resulting estimates.

Even if good data on the "average economic lives" and survival functions of capital goods existed, it would be useful in deriving the estimates of capital consumption allowances, to know the rate of decline in the value of existing capital goods as they aged.

The assumption of "straight-line depreciation" used in this report implies that, with an average life of ten years, capital goods which are one year old will be worth nine-tenths of their value new, those that are two years old, eight-tenths, and so on. Studies of the values of less than new capital goods for which an extensive second-hand market exists would seem to suggest that "reducing balance" depreciation procedures (wherein the value of a capital good declines by a constant percentage of its market value) is more appropriate.[23] Yet, for many types of capital goods no second-hand market exists and it is not possible to say what depreciation function is the appropriate one to use.[24] It was decided to produce the estimates presented here with the simplest, though admittedly arbitrary, function. More and better data which would permit the use of more realistic survival and depreciation functions are absolutely mandatory if the type of capital stock and flow estimates presented here are to be improved in the future.[25]

(c) Summary

It should be possible to improve the estimates of gross fixed capital formation by industry to account for purchases and sales of existing capital goods and to obtain improved knowledge of the commodity detail lying behind the data for machinery and equipment and capital items charged to operating expenses expenditures. Clearly, surveys of industries will be the next step necessary to improve the "life" estimates used here and to modify the restrictive survival and depreciation functions employed.

The heterogeneity and changing nature of capital goods over time present great difficulties when it comes to constructing price indexes for such goods. From the foregoing discussion, it is obviously extremely difficult to quantify in any satisfactory way the improvements in quality or productivity of capital goods over time. It is less difficult, perhaps, to compare different capital goods over time in terms of their reproduction costs. It would appear, moreover, that this latter method is the only one operational at present. Yet it must be admitted that price indexes for such capital goods (and all capital goods change over time in quality) are approximations to what is ideally desired.

The estimates presented here are crude compared to what would ideally be wanted. It has been shown that even ideal estimates, given the nature of the problem, cannot be obtained. The estimates presented here, like all empirical constructs in economics, are approximations to the theoretical ideal. The test of their validity rests upon how statistically sound they are in relation to what could be achieved with improved data only at enormous expense, how acceptable actual measurement procedures are when contrasted with the ideal and whether the resulting estimates serve to confirm impressions about how economic systems behave – such impressions being based upon analysis of all the empirical knowledge about economic systems which is available.

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[23] See G. Terborgh, *Realistic Depreciation Policy* (Washington: Machinery and Allied Products Institute, 1954).

[24] Many variants are possible: straight-line with zero positive scrap value, reducing balance (with different rates) with positive scrap value, sum-of-years digits with zero or positive scrap value, and fixed-annuity methods.

[25] A limited study based on preliminary capital stock and flow estimates for the Food and Beverages Major Group was performed using a range of lives, straight-line and reducing balance depreciation functions and a survival function based on a normal curve distribution of lives. The **level** of the stock and flow capital estimates was, of course, affected but the cyclical and secular trends shown by constant 1949 dollar estimates of net fixed capital formation, capital consumption allowances and gross and net stocks were very similar.

As explained in Section III, the use of the "perpetual inventory" method for estimating the gross and net stock of fixed reproducible capital requires three sets of data: (a) current dollar estimates of gross fixed capital formation; (b) price indexes relating to gross fixed capital formation and (c) estimates of the average economic life of the components of the stock of capital.

(a) Estimates of Gross Fixed Capital Formation

For the period 1926-45, the estimates of current dollar gross fixed capital formation by Major Group in Manufacturing are taken from Department of Trade and Commerce, *Private and Public Investment in Canada 1926-1951*, (hereafter called *PPI 1926-1951*), Tables 26-39. These estimates were derived from a sample of corporate income tax returns to the Department of National Revenue for 358 companies engaged in Manufacturing in 1946 and active during the preceding twenty-year period. A discussion of the problems involved in arriving at such estimates is found in *PPI 1926-1951* (p. 223) to which the reader is referred.[1] The use of these data by the Fixed Capital Stocks Project of DBS raises a number of problems which require mention.

(i) For the years 1926-32, the estimates of gross fixed capital formation in machinery and equipment for the Food and Beverages Major Group as published in *PPI 1926-1951*, Table 27 are incorrect.[2] Consequently, the estimates for Total Manufacturing, *PPI 1926-1951*, Table 26 are also incorrect. Furthermore, the estimates for the Miscellaneous Manufacturing Industries, and for Capital Items Charged to Operating Expenses in all Manufacturing Industries are rendered incorrect since they were run back from a 1946 benchmark estimate obtained from the Capital Expenditures Survey with an extrapolator based on the estimates published in *PPI 1926-1951*, Tables 27-38. Section IV, Table 1, shows both the incorrect and correct estimates for all Manufacturing, Food and Beverages, Miscellaneous Manufacturing Industries, and Capital Items Charged to Operating Expenses.

In Section IV, Table 2, Buckley's comparison of *PPI 1926-1951* and *PICF* data is repeated, with corrections to *PPI 1926-1951* estimates made for the error in Manufacturing. While the discrepancy in trend which worried Buckley is largely removed, some concern must still be felt for the remaining differences.

(ii) The estimates from 1946 on are derived from the Department of Trade and Commerce's Capital Expenditures Survey, a joint undertaking by the Economics Branch of the Department of Trade and Commerce and the Business Finance Division of the DBS. Historical data for the period 1946-57 are contained in DBS Catalogue No. 61-504 *Private and Public Investment in Canada 1946-1957*. It must be assumed that the estimates from 1926-45 have as their "basic statistical reporting unit", the firm or legal corporate entity. From 1946 on however, the basic statistical reporting unit became the establishment.[3]

The shift in the basic statistical reporting unit from the legal corporate entity to the establishment results in somewhat mixed time series data on fixed capital formation by Major Groups in Manufacturing.[4] Some idea of the difference in the estimates which has resulted because of this shift in basic statistical reporting units can be obtained from a comparison by Major Groups of the estimates of fixed capital formation derived from the Capital Expenditures Survey and of capital expenditures derived from the Department of National Revenue, *Taxation Statistics*. This comparison is given in Section IV, Table 3. While the comparison cannot strictly be made (see the notes to Section IV, Table 3), it nonetheless reveals that the shift in the basic statistical reporting unit does add an additional element of ambiguity to the resulting capital stock estimates by industry.

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[1] See also F.W. Emmerson, *Selected Corporation Financial Statistics 1926-1946*, a working document available from the DBS Central Research and Development Staff upon request.

[2] See K. Buckley, "Capital Formation in Canada", *Problems of Capital Formation: Concepts, Measurement and Controlling Factors*, (Princeton: Princeton University Press for the National Bureau of Economic Research, Inc., 1957), pp. 109-114 for the location of the error in the Major Group of Food and Beverages, and a comparison as well as a critical assessment of estimates of total public and private gross fixed capital formation in machinery and equipment contained in *PPI 1926-1951* and Department of Reconstruction, *Public Investment and Capital Formation, A Study of Public and Private Investment Outlay, Canada, 1926-1941*, (hereafter called *PICF*).

[3] It is difficult to say how prompt was the shift from a company to an establishment basis. In DBS Catalogue No. 61-504, *Private and Public Investment in Canada 1946-1957*, it is stated that, wherever possible, capital expenditures for separate establishments of a multi-establishment company are obtained. However, if one examines the early reports dealing with capital expenditures (which contain the estimates on which DBS Catalogue No. 61-504 historical survey is based), one finds continued reference to the firm and establishment as the same reporting unit. (See, for example, Department of Reconstruction and Supply, *Capital, Repair and Maintenance Expenditures of Business Enterprises in Canada, Forecast 1946;* DRS, *Forecast of 1947 Investment by Canadian Business;* and DRS and DTC *Outlook 1948* and *1949*). It was not until the DTC *Outlook 1950* where the *DBS 1948 S.I.C.* is discussed, that any definite mention of the establishment as compared to the firm is made. Thus, it may be assumed that the shift from the company to the establishment as the basic statistical unit was not made abruptly.

[4] It should not be assumed that the estimates of fixed capital formation in *PPI 1926-1951* relate only to corporate legal entities. The estimates are, in effect, extrapolations of 1946 estimates, based on the Capital Expenditures Survey, on the basis of the movement of extrapolators derived from the corporate income tax return sample. Thus, in the *PPI 1926-1951* estimates, it is assumed that capital expenditures of unincorporated businesses in Manufacturing move with capital expenditures of incorporated companies.

TABLE 1. Original[1] and Corrected Estimates of Gross Fixed Capital Formation, Manufacturing, 1926-32

Year	Total manufacturing			Food and beverages			Miscellaneous manufacturing industries		
	Construction	Machinery and equipment	Total	Construction	Machinery and equipment	Total	Construction	Machinery and equipment (incl. CICOE)[2]	Total
	millions of current dollars								
Original estimates:									
1926	55.7	166.1	221.8	2.7	80.9	83.6	1.2	35.4	36.6
1927	86.9	194.7	281.6	4.4	89.7	94.1	1.9	41.5	43.4
1928	121.7	203.2	324.9	9.6	96.6	106.2	2.7	43.3	46.0
1929	131.0	243.3	374.3	13.5	130.9	144.4	2.9	51.9	54.8
1930	75.5	201.8	277.3	7.4	100.0	107.4	1.7	43.0	44.7
1931	40.9	116.2	157.1	7.2	54.0	61.2	0.9	24.8	25.7
1932	19.3	63.3	82.6	4.9	31.0	35.9	0.4	13.5	13.9
Corrected estimates:[3]									
1926	55.7	73.6	129.3	2.7	8.1	10.8	1.2	15.7	16.9
1927	86.9	92.1	179.0	4.4	9.0	13.4	1.9	19.6	21.5
1928	121.7	92.8	214.5	9.6	9.7	19.3	2.7	19.8	22.5
1929	131.0	93.5	224.5	13.5	13.1	26.6	2.9	19.9	22.8
1930	75.5	87.5	163.0	7.4	10.0	17.4	1.7	18.7	20.4
1931	40.9	54.4	95.3	7.2	5.4	12.6	0.9	11.6	12.5
1932	19.3	27.9	47.2	4.9	3.1	8.0	0.4	6.0	6.4

[1] See *PPI 1926-1951*, Tables 26, 27 and 39.
[2] Capital items charged to operating expenses for all Manufacturing.
[3] Corrected estimates supplied by Economics Branch, Department of Trade and Commerce.

TABLE 2. Comparison of Unrevised and Revised[1] Estimates of Total Gross Fixed Capital Formation in Machinery and Equipment, PPI 1926-1951 vs PICF

Year	(1) PICF	(2) PPI	(3) (2)/(1)	(4) Error in manufacturing	(5) Revised PPI (2)+(4)	(6) (5)/(1)
	millions of current dollars					
1926	293	371	1.266	– 92	279	0.952
1927	360	451	1.253	– 103	348	0.967
1928	423	509	1.203	– 110	399	0.943
1929	503	620	1.233	– 150	470	0.934
1930	401	497	1.239	– 114	383	0.955
1931	220	283	1.286	– 62	221	1.005
1932	131	161	1.229	– 35	126	0.962
1933	100	95	0.950	–	95	0.950
1934	149	130	0.872	–	130	0.872
1935	177	163	0.921	–	163	0.921
1936	236	198	0.839	–	198	0.839
1937	366	304	0.831	–	304	0.831
1938	327	300	0.917	–	300	0.917
1939	305	279	0.915	–	279	0.915
1940	495	464	0.937	–	464	0.937
1941	696	655	0.941	–	655	0.941

[1] Adjusted for the error in the Food and Beverages Major Group and in the Miscellaneous Manufacturing Industries Major Group.

TABLE 3. A Comparison of Estimates of Gross Fixed Capital Formation from DBS Capital Expenditures Survey and Capital Expenditures Data from DNR Taxation Statistics
Thirteen Combined Major Groups and Total Manufacturing

Year	Food and beverages		Tobacco, rubber and leather products		Textile products (except clothing)		Clothing (textile and fur)		Wood products		Paper products		Printing, publishing and allied industries	
	CES	TS	CES	TS	CES	TS	CES	TS	CES	TS	CES	TS	CES	TS
	millions of current dollars													
1948	88.4	80.8	12.1	13.0	35.6	27.5	12.3	20.0	26.4	30.9	89.5	96.8	19.4	19.6
1949	78.7	66.7	11.1	13.9	32.1	28.8	13.7	13.9	26.7	27.1	81.5	69.4	20.1	16.2
1950	75.2	66.6	9.8	10.4	27.4	24.0	11.9	18.2	29.4	28.4	78.5	62.9	19.4	18.6
1951	79.1	73.6	12.9	14.5	39.1	26.3	13.2	19.6	38.6	40.0	125.3	117.4	24.3	24.7
1952	77.3	68.6	14.6	13.4	31.5	26.9	12.7	13.9	31.8	35.8	129.5	112.2	14.3	14.7
1953	85.0	89.7	21.5	23.1	27.9	29.1	14.4	16.2	34.6	52.8	104.1	130.8	16.4	19.4
1954	104.3	89.5	21.1	31.2	28.5	20.6	9.8	12.9	32.9	40.2	87.3	122.7	31.4	30.1
1955	103.7	101.8	21.8	26.1	28.0	20.6	9.2	11.7	43.0	56.6	138.9	137.0	24.1	32.6
1956	109.1	126.4	26.4	29.8	38.3	34.4	9.7	14.6	50.8	115.6	257.4	188.9	25.5	28.1
1957	117.1	128.1	29.7	41.3	39.3	41.4	10.8	13.4	39.0	126.9	266.3	233.1	40.1	36.8
1958	126.2	112.6	22.4	31.5	23.3	22.6	8.2	12.3	30.9	57.5	127.2	130.3	33.5	39.9
1959	132.8	142.9	24.4	26.1	22.8	26.3	12.5	19.1	50.7	71.1	126.6	117.2	40.2	38.8

Year	Iron and steel products		Transportation equipment		Non-ferrous metal products and electrical apparatus and supplies		Non-metallic mineral products and products of petroleum and coal		Chemical products		Miscellaneous manufacturing industries		Total manufacturing	
	millions of current dollars													
1948	56.3	75.6	15.4	12.8	36.4	38.3	70.8	91.6	41.9	47.9	6.5	5.4	511.0	560.2
1949	52.3	57.6	22.0	21.4	45.5	31.8	47.5	80.8	37.8	37.8	5.9	7.0	474.9	472.3
1950	44.2	60.1	27.3	28.7	36.1	32.2	49.2	85.8	26.3	31.7	6.0	5.6	440.7	473.4
1951	97.2	122.0	48.9	42.6	80.3	140.8	89.4	96.3	57.7	42.1	7.4	10.0	713.4	770.0
1952	135.9	169.7	62.1	59.2	111.1	145.6	111.8	160.0	141.0	74.7	8.8	7.8	882.4	902.4
1953	114.0	150.7	97.3	111.3	115.3	143.3	113.9	155.6	122.3	80.7	8.7	12.2	875.4	1,014.9
1954	88.4	118.4	65.2	86.2	85.3	134.3	136.8	184.6	39.8	61.9	7.2	11.2	738.0	943.7
1955	95.2	128.3	54.3	72.3	112.2	102.0	156.7	208.8	56.3	69.0	10.8	11.7	854.0	978.7
1956	162.5	189.8	60.3	108.3	158.9	86.8	213.0	286.1	144.9	72.2	12.3	16.3	1,269.1	1,297.3
1957	179.6	210.6	62.4	72.2	188.7	190.6	208.6	319.4	149.7	108.9	15.1	11.7	1,346.4	1,534.5
1958	126.4	178.8	54.3	86.8	125.0	132.7	183.6	244.5	116.6	96.1	12.0	15.4	989.6	1,161.0
1959	165.7	209.9	65.7	83.8	90.7	88.1	195.4	286.5	81.0	68.8	16.5	28.2	1,025.0	1,207.0

Note: 1. For each Major Group, the first column (headed CES) gives gross fixed capital formation estimates (construction and machinery and equipment) from the DBS Capital Expenditures Survey. The estimates do **not** include capital items charged to operating expenses.

2. There are a number of reasons why these data are not strictly comparable. First, the *Taxation Statistics* data refer to legal corporate entities while the Capital Expenditures Survey data refer to establishments. Second, the *Taxation Statistics* data refer to companies' fiscal years which fall within the relevant taxation year while the Capital Expenditures Survey data refer to calendar years. Third, the coverage of legal corporate entities in *Taxation Statistics* extends only to fully tabulated companies (i.e., companies supplying complete profit and loss and balance sheet statements) and do not include (some of the exclusions being irrelevant as far as Manufacturing data are concerned) banks and insurance companies, companies submitting incomplete returns, inactive companies, co-operatives, crown and personal corporations, and other exempt companies. For 1948 to 1952, the *Taxation Statistics* data are on the basis of the old Department of Labour Standard Industrial Classification. Further differences are outlined in Section V of this report.

For the years 1958 to 1960, the data are obtained from Department of Trade and Commerce, *Private and Public Investment in Canada Outlooks 1960, 1961* and *1962*. Methods and concepts employed in obtaining the estimates from the Capital Expenditures Survey are discussed in DBS Catalogue No. 61-504, pp. 7-10 and the latest estimate of the coverage of the Survey, based on the DBS 1948 Standard Industrial Classification is given in DTC, *Outlook 1961*, p. 21.

As noted in Section I, for the period 1926 to 1945 data on capital expenditures from *PPI 1926-1951* are available only for the combined Tobacco, Rubber and Leather Products Major Groups, the combined Non-ferrous Metal Products and Electrical Apparatus and Supplies Major Groups and the combined Non-metallic Mineral Products and Products of Petroleum and Coal Major Groups. It is not possible to obtain a reliable breakdown of such data into its Major Group components. Thus, the estimates in this report are prepared for thirteen combined Major Groups rather than the seventeen individual Major Groups in Manufacturing.

In Section IV, Table 4, the estimates of fixed capital formation by Major Groups in Manufacturing for the period 1926-60 are shown and a reconciliation with National Accounts data for Manufacturing is also given. There are three final comments which must be made with respect to these estimates.

(i) Capital items charged to operating expenses: additional to those items normally considered as capital items are certain smaller types of equipment which are normally charged by respondents to the Capital Expenditures Survey to operating or current accounts and have a serviceable life greater than one year. Examples include small tools and some office equipment. An independent estimate is made for expenditures of this type.[5] Since 1952, these estimates for all Manufacturing amount to 10 per cent of combined machinery and equipment capital and repair expenditures, while prior to 1952 the percentage varies as Section IV, Table 5 shows. In the early publication of the Departments of Reconstruction and Supply and Trade and Commerce dealing with capital formation estimates,[6]

[5] DBS Catalogue No. 61-504, *op. cit.*, pp. 9-10.

[6] DRS *Capital, Repair and Maintenance Expenditures of Business Enterprises in Canada, Forecast 1946;* DRS *Forecast of 1947 Investment by Canadian Business;* DRS *Private and Public Investment in Canada Outlook 1948.*

TABLE 4. Estimates of Gross Fixed Capital Formation in Manufacturing as used in DBS Fixed Capital Stocks Project, 1926-1960

(Including Reconciliation with DBS National Accounts Income and Expenditure Data)

Year	Food and beverages				Tobacco, rubber and leather products				Textile products (except clothing)			
	Construction	Machinery and equipment	Capital items charged to operating expenses	Total	Construction	Machinery and equipment	Capital items charged to operating expenses	Total	Construction	Machinery and equipment	Capital items charged to operating expenses	Total
	millions of current dollars											
1926	2.7	8.1	1.5	12.3	0.8	1.4	0.5	2.7	4.7	2.5	0.8	8.0
1927	4.4	9.0	1.8	15.2	1.1	3.4	0.9	5.4	6.2	7.3	1.5	15.0
1928	9.6	9.7	2.2	21.5	2.9	2.9	0.9	6.7	0.6	7.9	1.6	10.1
1929	13.5	13.1	2.7	29.3	2.5	3.6	0.7	6.8	1.4	4.6	1.1	7.1
1930	7.4	10.0	2.3	19.7	2.1	2.2	0.7	5.0	6.8	3.1	0.9	10.8
1931	7.2	5.4	1.1	13.7	0.9	1.3	0.3	2.5	1.7	10.6	1.5	13.8
1932	4.9	3.1	0.7	8.7	0.4	1.1	0.2	1.7	1.0	2.7	0.5	4.2
1933	0.8	2.0	0.6	3.4	2.9	1.5	0.3	4.7	0.9	3.6	0.7	5.2
1934	1.6	3.7	0.7	6.0	0.4	1.5	0.3	2.2	0.6	4.8	0.9	6.3
1935	3.5	5.4	1.3	10.2	0.1	1.9	0.4	2.4	2.8	7.1	1.3	11.2
1936	5.3	5.5	1.0	11.8	16.4	5.3	0.8	22.5	1.3	5.3	1.0	7.6
1937	8.5	10.5	1.9	20.9	1.8	2.4	0.6	4.8	2.6	6.2	1.4	10.2
1938	7.8	11.8	2.1	21.7	0.8	2.5	0.6	3.9	1.4	5.0	1.2	7.6
1939	7.5	11.0	2.0	20.5	1.1	2.0	0.5	3.6	0.6	5.0	1.1	6.7
1940	10.7	12.4	9.6	32.7	2.7	2.3	2.3	7.3	3.4	10.2	9.3	22.9
1941	9.7	14.0	11.2	34.9	2.4	2.7	2.8	7.9	3.1	8.6	8.1	19.8
1942	8.5	10.9	10.1	29.5	2.4	1.8	2.3	6.5	1.5	4.9	6.5	12.9
1943	6.1	8.0	7.5	21.6	2.2	1.7	2.0	5.9	0.8	1.8	3.1	5.7
1944	10.7	11.4	10.8	32.9	2.3	2.7	1.9	6.9	1.8	4.9	4.1	10.8
1945	18.2	16.2	14.7	49.1	5.9	4.4	3.8	14.1	1.3	7.7	6.7	15.7
1946	24.7	28.4	6.1	59.2	6.7	6.1	1.6	14.4	8.4	16.2	3.3	27.9
1947	33.0	49.8	8.5	91.3	4.6	11.9	2.4	18.9	10.9	25.7	4.2	40.8
1948	31.9	56.5	9.0	97.4	3.5	8.6	1.8	13.9	6.5	29.1	4.6	40.2
1949	27.7	51.0	8.5	87.2	2.6	8.5	1.6	12.7	7.0	25.1	4.2	36.3
1950	26.0	49.2	8.5	83.7	2.3	7.5	1.6	11.4	6.6	20.8	3.9	31.3
1951	28.0	51.1	8.7	87.8	3.4	9.5	1.9	14.8	9.9	29.2	4.7	43.8
1952	26.6	50.7	8.6	85.9	3.8	10.8	2.2	16.8	7.0	24.5	4.0	35.5
1953	26.0	59.0	9.9	94.9	6.0	15.5	2.6	24.1	7.9	20.0	3.6	31.5
1954	38.6	65.7	10.8	115.1	5.7	15.4	2.5	23.6	7.5	21.0	3.5	32.0
1955	38.5	65.2	10.9	114.6	5.1	16.7	2.7	24.5	7.6	20.4	3.7	31.7
1956	32.6	76.5	12.1	121.2	8.2	18.2	3.0	29.4	10.3	28.0	4.5	42.8
1957	36.3	80.8	13.1	130.2	9.3	20.4	3.3	33.0	7.9	31.4	4.9	44.2
1958	40.5	85.7	13.7	139.9	6.6	15.8	2.8	25.2	2.6	20.7	3.7	27.0
1959	45.4	87.4	14.3	147.1	7.6	16.8	3.1	27.5	4.7	18.1	3.4	26.2
1960	52.2	98.2	15.4	165.8	9.8	24.9	3.8	38.5	6.0	21.1	3.8	30.9

Year	Clothing (textile and fur)				Wood products				Paper products			
	Construction	Machinery and equipment	Capital items charged to operating expenses	Total	Construction	Machinery and equipment	Capital items charged to operating expenses	Total	Construction	Machinery and equipment	Capital items charged to operating expenses	Total
	millions of current dollars											
1926	2.0	1.5	0.3	3.8	3.3	4.4	2.9	10.6	21.4	22.5	4.1	48.0
1927	7.5	1.7	0.4	9.6	21.5	6.2	2.0	29.7	23.7	23.7	5.8	53.2
1928	10.8	1.5	0.5	12.8	7.4	3.7	2.0	13.1	31.8	17.2	4.2	53.2
1929	13.3	2.2	0.6	16.1	10.2	2.8	1.1	14.1	16.0	9.6	4.6	30.2
1930	0.8	1.0	0.4	2.2	5.9	4.2	1.1	11.2	4.4	20.8	5.7	30.9
1931	1.6	0.6	0.2	2.4	1.0	2.2	1.2	4.4	11.3	1.9	2.6	15.8
1932	1.3	0.5	0.2	2.0	4.4	1.5	0.8	6.7	2.1	1.2	1.1	4.4
1933	1.1	0.6	0.1	1.8	7.0	1.5	0.7	9.2	0.1	0.7	0.7	1.5
1934	0.4	0.8	0.2	1.4	4.4	1.2	0.8	6.4	0.8	2.7	1.2	4.7
1935	0.1	0.7	0.2	1.0	1.0	2.2	0.8	4.0	2.2	2.4	1.6	6.2
1936	0.8	1.1	0.3	2.2	2.8	1.5	0.7	5.0	1.5	3.6	1.7	6.8
1937	1.8	1.6	0.4	3.8	14.1	3.6	1.5	19.2	4.2	6.4	2.9	13.5
1938	0.4	1.0	0.3	1.7	1.2	2.6	1.8	5.6	2.6	4.6	1.6	8.8
1939	1.4	1.9	0.6	3.9	4.9	1.8	1.2	7.9	3.9	2.2	1.8	7.9
1940	2.4	1.7	2.4	6.5	8.0	3.1	10.2	21.3	5.1	9.8	16.4	31.3

Note: The estimates of total gross fixed capital formation in Manufacturing as per the National Accounts are taken from:
1926-54: DBS Catalogue No. 13-502 *National Accounts Income and Expenditure 1926-1956*, Table 25 line 5;
1955-59: DBS Catalogue No. 13-201 *National Accounts Income and Expenditure 1961*, Table 25 line 5;
1960: In DBS Catalogue No. 13-201 the estimate for 1960 is based on the DBS 1960 Standard Industrial Classification. The estimates given here are from Department of Trade and Commerce, *Private and Public Investment in Canada Outlook 1962*, p. 24.

TABLE 4. Estimates of Gross Fixed Capital Formation in Manufacturing as used in DBS Fixed Capital Stocks Project, 1926-1960 – Continued
(Including Reconciliation with DBS National Accounts Income and Expenditure Data)

Year	Clothing (textile and fur)				Wood products				Paper products			
	Construction	Machinery and equipment	Capital items charged to operating expenses	Total	Construction	Machinery and equipment	Capital items charged to operating expenses	Total	Construction	Machinery and equipment	Capital items charged to operating expenses	Total
	millions of current dollars											
1941	10.9	2.1	2.6	15.6	10.8	6.3	10.4	27.5	8.8	5.6	12.4	26.8
1942	3.0	1.1	1.9	6.0	11.3	4.1	8.0	23.4	3.8	9.6	16.6	30.0
1943	1.6	1.2	1.3	4.1	16.8	3.6	5.6	26.0	1.7	5.1	9.7	16.5
1944	2.8	1.1	1.4	5.3	2.9	2.4	5.2	10.5	8.0	6.7	12.8	27.5
1945	9.2	4.4	3.1	16.7	1.6	3.6	7.6	12.8	5.8	10.8	18.7	35.3
1946	2.6	5.8	1.2	9.6	10.9	9.5	2.7	23.1	27.2	27.8	7.0	62.0
1947	3.7	10.3	1.7	15.7	11.4	20.7	4.1	36.2	31.2	49.8	9.8	90.8
1948	2.1	10.2	1.6	13.9	7.9	18.5	4.0	30.4	29.1	60.4	11.5	101.0
1949	3.0	10.7	1.6	15.3	7.5	19.2	3.9	30.6	26.8	54.7	11.0	92.5
1950	2.5	9.4	1.5	13.4	8.1	21.3	4.3	33.7	21.1	57.4	11.6	90.1
1951	4.1	9.1	1.4	14.6	11.2	27.4	5.3	43.9	41.9	83.4	15.5	140.8
1952	1.6	11.1	1.5	14.2	9.3	22.5	4.6	36.4	33.6	95.9	16.9	146.4
1953	3.8	10.6	1.5	15.9	10.4	24.2	4.7	39.3	22.5	81.6	15.1	119.2
1954	2.2	7.6	1.2	11.0	8.4	24.5	4.9	37.8	21.6	65.7	14.1	101.4
1955	1.4	7.8	1.2	10.4	12.1	30.9	6.0	49.0	33.1	105.8	18.1	157.0
1956	1.3	8.4	1.3	11.0	14.0	36.8	6.6	57.4	85.1	172.3	25.8	283.2
1957	1.2	9.6	1.5	12.3	10.3	28.7	5.6	44.6	66.3	200.0	29.0	295.3
1958	0.7	7.5	1.1	9.3	8.8	22.1	4.6	35.5	25.5	101.7	18.8	146.0
1959	1.6	10.9	1.6	14.1	15.3	35.4	6.5	57.2	24.2	102.4	19.6	146.2
1960	2.3	9.9	1.4	13.6	16.1	33.4	6.5	56.0	34.1	130.2	22.3	186.6

	Printing, publishing and allied industries				Iron and steel products				Transportation equipment			
	Construction	Machinery and equipment	Capital items charged to operating expenses	Total	Construction	Machinery and equipment	Capital items charged to operating expenses	Total	Construction	Machinery and equipment	Capital items charged to operating expenses	Total
	millions of current dollars											
1926	0.8	4.1	0.8	5.7	4.3	4.1	1.2	9.6	0.8	1.1	0.3	2.2
1927	0.5	3.3	0.7	4.5	5.0	4.5	1.5	11.0	4.8	2.8	0.7	8.3
1928	9.4	6.8	1.2	17.4	4.8	7.3	1.6	13.7	7.0	6.2	1.3	14.5
1929	7.5	8.2	1.3	17.0	8.3	9.8	2.0	20.1	8.3	5.6	1.2	15.1
1930	0.2	4.5	0.9	5.6	12.5	5.0	1.5	19.0	1.8	3.3	0.8	5.9
1931	0.3	2.8	0.5	3.6	4.7	5.0	0.9	10.6	0.3	2.5	0.5	3.3
1932	0.7	2.1	0.3	3.1	0.5	1.6	0.4	2.5	0.2	2.1	0.3	2.6
1933	0.3	0.9	0.2	1.4	0.6	1.2	0.3	2.1	0.6	1.6	0.2	2.4
1934	–	0.9	0.1	1.0	2.5	2.4	0.5	5.4	2.1	1.3	0.2	3.6
1935	0.6	5.5	0.7	6.8	2.4	2.6	0.7	5.7	2.4	2.8	0.4	5.6
1936	–	1.7	0.3	2.0	3.1	2.8	0.8	6.7	0.9	2.4	0.9	4.2
1937	1.2	2.7	0.5	4.4	10.0	8.3	1.7	20.0	5.2	5.2	1.5	11.9
1938	0.6	3.2	0.7	4.5	5.0	5.2	1.2	11.4	14.5	6.3	1.7	22.5
1939	0.3	5.7	0.9	6.9	4.3	5.1	1.1	10.5	2.9	4.5	1.2	8.6
1940	0.6	4.2	3.3	8.1	4.9	15.1	11.1	31.1	3.4	8.0	8.7	20.1
1941	–	2.6	2.6	5.2	9.9	32.0	22.4	64.3	3.0	8.9	11.5	23.4
1942	0.3	2.0	2.0	4.3	7.2	37.5	26.5	71.2	27.9	17.6	17.3	62.8
1943	0.2	1.2	1.6	3.0	4.3	24.0	15.7	44.0	6.6	13.5	11.9	32.0
1944	0.2	2.2	2.0	4.4	10.1	22.2	16.0	48.3	1.6	4.7	8.4	14.7
1945	3.9	2.1	2.9	8.9	12.8	18.5	17.7	49.0	2.2	8.6	10.6	21.4
1946	2.9	4.4	0.9	8.2	14.9	22.0	5.6	42.5	5.4	10.3	3.1	18.8
1947	5.4	8.4	1.3	15.1	16.0	38.9	8.0	62.9	5.2	8.9	2.6	16.7
1948	7.0	12.4	1.7	21.1	19.6	36.7	8.0	64.3	5.4	10.0	2.9	18.3
1949	6.3	13.8	1.8	21.9	14.6	37.7	8.0	60.3	6.7	15.3	3.7	25.7
1950	5.0	14.4	2.0	21.4	13.5	30.7	7.7	51.9	9.9	17.4	4.0	31.3
1951	6.3	18.0	2.3	26.6	47.1	50.1	11.1	108.3	21.8	27.1	4.9	53.8
1952	3.3	11.0	1.5	15.8	46.2	89.7	15.4	151.3	37.1	25.0	5.6	67.7
1953	3.8	12.6	1.7	18.1	35.6	78.4	14.9	128.9	46.9	50.4	8.3	105.6
1954	11.7	19.7	2.4	33.8	22.0	66.4	13.0	101.4	20.9	44.3	7.4	72.6
1955	6.4	17.7	2.2	26.3	27.0	68.2	14.4	109.6	20.2	34.1	6.3	60.6
1956	5.3	20.2	2.6	28.1	40.3	122.2	21.6	184.1	16.7	43.6	7.6	67.9
1957	17.3	22.8	2.9	43.0	54.5	125.1	22.5	202.1	18.1	44.3	7.8	70.2
1958	13.4	20.1	2.6	36.1	35.7	90.7	17.4	143.8	16.6	37.7	6.9	61.2
1959	11.8	28.4	3.6	43.8	40.9	124.8	24.6	190.3	20.5	45.2	7.8	73.5
1960	7.4	21.8	2.9	32.1	47.2	149.6	26.8	223.6	16.4	32.3	6.3	55.0

TABLE 4. Estimates of Gross Fixed Capital Formation in Manufacturing as used in DBS Fixed Capital Stocks Project, 1926-1960 – Continued
(Including Reconciliation with DBS National Accounts Income and Expenditure Data)

Year	Non-ferrous metal products and electrical apparatus and supplies				Non-metallic mineral products and products of petroleum and coal			
	Construction	Machinery and equipment	Capital items charged to operating expenses	Total	Construction	Machinery and equipment	Capital items charged to operating expenses	Total
	millions of current dollars							
1926	2.6	4.8	0.8	8.2	6.7	2.0	1.0	9.7
1927	1.9	3.9	0.8	6.6	6.0	3.2	1.4	10.6
1928	1.5	4.0	0.9	6.4	32.0	3.2	1.3	36.5
1929	3.5	4.9	0.9	9.3	32.7	4.0	1.3	38.0
1930	1.8	7.5	1.3	10.6	27.2	3.7	0.8	31.7
1931	1.0	4.7	0.6	6.3	8.2	3.5	0.8	12.5
1932	0.6	3.2	0.4	4.2	2.1	1.7	0.4	4.2
1933	0.4	1.0	0.3	1.7	2.0	1.3	0.4	3.7
1934	0.6	1.5	0.3	2.4	3.3	1.5	0.4	5.2
1935	0.8	1.8	0.5	3.1	3.6	1.4	0.6	5.6
1936	0.7	2.9	0.6	4.2	3.6	1.3	0.5	5.4
1937	0.8	9.3	1.6	11.7	7.0	1.8	0.6	9.4
1938	1.3	7.8	1.3	10.4	5.3	2.0	0.6	7.9
1939	0.4	7.2	1.2	8.8	4.4	2.3	0.6	7.3
1940	34.0	18.0	12.8	64.8	6.4	2.7	4.8	13.9
1941	60.0	69.0	37.6	166.6	5.3	3.2	5.1	13.6
1942	83.0	52.0	30.1	165.1	3.9	3.2	5.3	12.4
1943	36.2	39.5	19.6	95.3	3.7	3.4	3.8	10.9
1944	14.7	6.3	9.2	30.2	3.5	2.5	4.2	10.2
1945	1.5	9.2	11.1	21.8	7.8	4.4	6.3	18.5
1946	5.3	14.0	3.9	23.2	8.7	8.8	2.7	20.2
1947	12.0	19.1	4.8	35.9	34.7	21.0	4.4	60.1
1948	9.7	26.7	6.4	42.8	40.4	30.4	5.3	76.1
1949	15.2	30.3	6.6	52.1	25.0	22.5	4.9	52.4
1950	12.0	24.1	6.2	42.3	18.7	30.5	5.9	55.1
1951	38.7	41.6	8.4	88.7	33.2	56.2	8.2	97.6
1952	56.9	54.2	10.0	121.1	52.3	59.5	8.6	120.4
1953	53.4	61.9	11.3	126.6	72.7	41.2	7.5	121.4
1954	32.0	53.3	10.7	96.0	99.2	37.6	7.2	144.0
1955	45.4	66.8	12.4	124.6	122.6	34.1	6.9	163.6
1956	77.1	81.8	14.8	173.7	135.3	77.7	11.8	224.8
1957	83.7	105.0	17.5	206.2	142.8	65.8	10.8	219.4
1958	51.0	74.0	13.7	138.7	150.4	33.2	7.2	190.8
1959	36.3	54.4	12.1	102.8	135.1	60.3	10.6	206.0
1960	32.5	68.6	14.6	115.7	88.0	42.9	8.9	139.8

Year	Chemical products				Miscellaneous manufacturing industries			
	Construction	Machinery and equipment	Capital items charged to operating expenses	Total	Construction	Machinery and equipment	Capital items charged to operating expenses	Total
	millions of current dollars							
1926	4.4	1.4	0.3	6.1	1.2	1.0	0.2	2.4
1927	2.4	3.5	0.6	6.5	1.9	1.2	0.3	3.4
1928	1.2	2.6	0.6	4.4	2.7	1.2	0.3	4.2
1929	10.9	5.2	0.9	17.0	2.9	1.2	0.3	4.4
1930	2.9	3.5	0.8	7.2	1.7	1.2	0.3	3.2
1931	1.8	2.3	0.5	4.6	0.9	0.7	0.2	1.8
1932	0.7	1.1	0.2	2.0	0.4	0.4	0.1	0.9
1933	1.0	2.9	0.2	4.1	0.4	0.3	0.1	0.8
1934	2.4	1.6	0.4	4.4	0.4	0.4	0.1	0.9
1935	1.1	2.0	0.5	3.6	0.5	0.6	0.1	1.2
1936	0.4	2.3	0.4	3.1	0.8	0.6	0.1	1.5
1937	5.5	2.0	0.5	8.0	1.4	1.0	0.2	2.6
1938	2.9	3.4	0.8	7.1	1.0	0.9	0.2	2.1
1939	1.0	2.4	0.6	4.0	0.7	0.9	0.2	1.8
1940	1.9	4.5	4.2	10.6	1.5	1.4	1.3	4.2

TABLE 4. Estimates of Gross Fixed Capital Formation in Manufacturing as used in DBS Fixed Capital Stocks Project, 1926-1960 – Concluded
(Including Reconciliation with DBS National Accounts Income and Expenditure Data)

Year	Chemical products				Miscellaneous manufacturing industries			
	Construction	Machinery and equipment	Capital items charged to operating expenses	Total	Construction	Machinery and equipment	Capital items charged to operating expenses	Total
	millions of current dollars							
1941	3.2	8.9	6.7	18.8	2.1	1.9	1.5	5.5
1942	5.3	4.7	4.9	14.9	3.0	1.9	1.6	6.5
1943	2.5	3.1	2.7	8.3	1.9	1.2	0.9	4.0
1944	1.4	1.6	3.2	6.2	1.3	1.2	1.0	3.5
1945	4.0	3.6	4.5	12.1	1.7	1.6	1.4	4.7
1946	11.6	8.0	2.3	21.9	2.9	2.7	0.6	6.2
1947	14.4	19.3	3.6	37.3	2.3	3.4	0.6	6.3
1948	15.0	26.9	4.5	46.4	2.7	3.8	0.7	7.2
1949	11.9	25.9	4.5	42.3	2.3	3.6	0.6	6.5
1950	7.3	19.0	4.0	30.3	2.4	3.6	0.6	6.6
1951	19.2	38.5	6.5	64.2	3.0	4.4	0.7	8.1
1952	61.2	79.8	10.6	151.6	4.7	4.1	0.7	9.5
1953	32.0	90.3	11.7	134.0	3.7	5.0	0.8	9.5
1954	15.1	24.7	5.6	45.4	2.7	4.5	0.8	8.0
1955	21.6	34.7	6.5	62.8	3.7	7.1	1.0	11.8
1956	57.9	87.0	11.8	156.7	3.6	8.7	1.2	13.5
1957	65.6	84.1	12.3	162.0	6.6	8.5	1.3	16.4
1958	43.1	73.5	11.5	128.1	2.7	9.3	1.4	13.4
1959	24.5	56.5	10.1	91.1	6.0	10.5	1.5	18.0
1960	36.2	74.1	12.3	122.6	6.4	12.2	1.9	20.5

Year	Total manufacturing				Total manufacturing rounded to millions	Total manufacturing National Accounts
	Construction	Machinery and equipment	Capital items charged to operating expenses	Total		
	millions of current dollars					
1926	55.7	58.9	14.7	129.3	129	129
1927	86.9	73.7	18.4	179.0	179	179
1928	121.7	74.2	18.6	214.5	214	215
1929	131.0	74.8	18.7	224.5	224	225
1930	75.5	70.0	17.5	163.0	163	163
1931	40.9	43.5	10.9	95.3	95	95
1932	19.3	22.3	5.6	47.2	47	47
1933	18.1	19.1	4.8	42.0	42	42
1934	19.5	24.3	6.1	49.9	50	50
1935	21.1	36.4	9.1	66.6	67	67
1936	37.6	36.3	9.1	83.0	83	83
1937	64.1	61.0	15.3	140.4	140	140
1938	44.8	56.3	14.1	115.2	115	115
1939	33.4	52.0	13.0	98.4	98	98
1940	85.0	93.4	96.4	274.8	275	274
1941	129.2	165.8	134.9	429.9	430	430
1942	161.1	151.3	133.1	445.5	446	446
1943	84.6	107.3	85.4	277.3	277	277
1944	61.3	69.9	80.2	211.4	211	211
1945	75.9	95.1	109.1	280.1	280	280
1946	132.2	164.0	41.0	337.2	337	337
1947	184.8	287.2	56.0	528.0	528	528
1948	180.8	330.2	62.0	573.0	573	573
1949	156.6	318.3	60.9	535.8	536	536
1950	135.4	305.3	61.8	502.5	502	502
1951	267.8	445.6	79.6	793.0	793	793
1952	343.6	538.8	90.2	972.6	973	973
1953	324.7	550.7	93.6	969.0	969	969
1954	287.6	450.4	84.1	822.1	822	822
1955	344.7	509.5	92.3	946.5	946	947
1956	487.7	781.4	124.7	1,393.8	1,394	1,394
1957	519.9	826.5	132.5	1,478.9	1,479	1,479
1958	397.6	592.0	105.4	1,095.0	1,095	1,095
1959	373.9	651.1	118.8	1,143.8	1,144	1,144
1960	354.6	719.2	126.9	1,200.7	1,201	1,201

no mention is made of how the estimates are prepared. In DBS Catalogue No. 13-502, *National Accounts Income and Expenditure 1926-1956*, para. 377, it is suggested that the estimates are prepared by comparing capital expenditures in machinery and equipment derived from the Capital Expenditures Survey and estimates of gross fixed capital formation in producers' durables derived from commodity flow studies. Historical records at DBS indicated that such a comparison was made for the year 1947 only. Beginning in 1952, the arbitrary rule of 10 per cent was adopted but there is insufficient evidence to ascertain how the estimates were prepared for 1946 and 1948 to 1951. For the period 1926 to 1945, the 1946 estimate was, as earlier explained, run back on estimates of gross fixed capital formation in machinery and equipment in all Manufacturing (except Miscellaneous Manufacturing Industries).[7] For all years 1926-60, these estimates were distributed over the Major Groups on the basis of each Major Group's share in combined machinery and equipment capital and repair expenditures in Manufacturing.

(ii) For the years 1940 to 1945 (incl.), an additional allowance of $500 million was added to the estimates of capital items charged to operating expenses to account for tools and equipment purchased predominantly by manufacturers for the production of defence equipment and supplies and for which the companies concerned received special permission to include in operating expenses.[8] An allocation of this $500 million to any particular Major Group would be no more

[7] See *PPI 1926-1951*, p. 223.
[8] *Ibid.*

TABLE 5. Ratio: Capital Items Charged to Operating Expenses to Gross Fixed Capital Formation and Repair Expenditures, Machinery and Equipment, Manufacturing, 1926-60

Year	(1) Capital items charged to operating expenses	(2) Gross fixed capital formation, machinery and equipment, manufacturing	(3) Repair expenditure, machinery and equipment, manufacturing	(4) U.K. financed machinery and equipment, expenditure, manufacturing	(5) Ratio (1) to Sum (2)+(3)+(4)
	millions of current dollars				
1926	14.7	58.9	57.2		0.127
1927	18.4	73.7	55.6		0.142
1928	18.6	74.2	56.9		0.142
1929	18.7	74.8	66.0		0.133
1930	17.5	70.0	46.5		0.150
1931	10.9	43.5	51.1		0.115
1932	5.6	22.3	35.1		0.098
1933	4.8	19.1	33.2		0.092
1934	6.1	24.3	42.3		0.092
1935	9.1	36.4	43.8		0.113
1936	9.1	36.3	46.9		0.109
1937	15.3	61.0	56.4		0.130
1938	14.1	56.3	46.7		0.137
1939	13.0	52.0	53.0		0.124
1940	96.4	84.4	85.4	9	0.540
1941	134.9	117.8	119.2	48	0.474
1942	133.1	116.3	142.2	35	0.454
1943	85.4	74.3	156.2	33	0.324
1944	80.2	69.9	173.5		0.329
1945	109.1	95.1	170.6		0.411
1946	41.0	164.0	164.3		0.125
1947	56.0	287.2	210.8		0.112
1948	62.0	330.2	252.7		0.106
1949	60.9	318.3	269.1		0.104
1950	61.8	305.3	279.0		0.106
1951	79.6	445.6	337.1		0.102
1952	90.2	538.8	363.5		0.100
1953	93.6	550.7	385.3		0.100
1954	84.1	450.4	390.9		0.100
1955	92.3	509.5	413.1		0.100
1956	124.7	781.4	465.6		0.100
1957	132.5	826.5	498.5		0.100
1958	105.4	592.0	462.1		0.100
1959	118.8	651.1	537.3		0.100
1960	126.9	719.2	550.1		0.100

Note: See text.

arbitrary than the procedure of assigning them, in effect, to all Major Groups on the basis of shares in combined capital and repair expenditures. Nevertheless, since expenditures on capital items charged to operating expenses were high relative to expenditures on machinery and equipment for all Manufacturing for the years 1940-45, this arbitrary allocation does lead to the result that, for some Major Groups during these years, expenditures on capital items charged to operating expenses are greater than expenditures on machinery and equipment. However, in view of the lack of reliable information, it is difficult to conceive of a more satisfactory handling of expenditures on capital items charged to operating expenses.

For each Major Group, the capital flow and stock estimates have been calculated independently for "capital items charged to operating expenses" so that readers wishing to use them separately may do so.

(iii) During the years 1940-43, some capital expenditures in Manufacturing, for direct war purposes, were financed by the U.K. Government

TABLE 6. U.K. Financed Capital Expenditure in Manufacturing, 1940-43

Year	Total[1]	Construction	Machinery and equipment
	millions of current dollars		
1940	27	18	9
1941	82	34	48
1942	59	24	35
1943	33	–	33

[1] In a footnote to Table 122, *PPI 1926-1951*, the expenditures are given as $28 million, $84 million, $61 million and $34 million. The figures given above are the ones used in the National Accounts as supplied by the Economics Branch of the Department of Trade and Commerce.

with the assets concerned being repurchaseable later by the Canadian Government.[9] In the National Accounts, these expenditures were included under Business gross fixed capital formation in Manufacturing.[10] In Section IV, Table 6, these expenditures are shown with an estimated breakdown between construction on the one hand, and machinery and equipment on the other. On the basis of information obtained from the Economics Branch of the Department of Trade and Commerce, these expenditures data were assigned to the combined Non-ferrous Metal Products and Electrical Apparatus and Supplies Major Group.

To assess the quality of the estimates of gross fixed capital formation in Manufacturing for the period 1926-60, the following qualifications must be borne in mind.

1. For the period 1926-45, the data largely relate to incorporated companies, while for the period 1946-60 they relate to establishments, as statistical reporting units. Hence, the first element of ambiguity in the data is introduced by the switch in reporting entities to which the capital expenditures relate.

2. The data refer to new additions only to the domestic stock of capital for each Major Group.[11] To the extent that reporting units purchase second-hand capital goods, previously located in Canada, the estimates are incorrect and understate the level of gross fixed capital formation for any particular Major Group. To the extent that reporting units sold second-hand capital goods, and given that such sales should be treated as negative gross fixed capital formation, the estimates are again incorrect and overstate the level of gross fixed capital formation for any particular Major Group. Related data indicate, however, that for Manufacturing industries failure to record purchases and sales of existing capital goods in gross fixed capital formation may not seriously diminish the usefulness of the capital expenditures data since many of the transactions in existing fixed capital goods would appear to be intra-industry, rather than inter-industry, in nature. It is to be noted that the higher the level of industry aggregation at which estimates of gross fixed capital formation and stocks of capital are prepared, the less significant this problem should be.

3. For the period 1946-60, it can be assumed, given the concepts employed, that the estimates of gross fixed capital formation by Major Groups in Manufacturing have no serious weakness owing to undercoverage or non-representativeness of the establishments reporting. For Manufacturing, the coverage of the Capital Expenditures Survey (i.e., in terms of capital expenditures reported as a percentage of estimated total expenditures) has varied between 76.6 per cent and 92.6 per cent. For the period 1926 to 1945, however, it must be assumed that the estimates are not as reliable as for the later period owing to the difficulties of deriving time series data for discrete items such as capital expenditures from a small sample.

4. The breakdown of capital expenditures into expenditures on construction, and on machinery and equipment-type capital goods is probably not as reliable as the estimates of total expenditures owing to the existence of borderline cases in which the distinction between construction and machinery and equipment expenditures appears somewhat nebulous.

[9] See *PPI 1926-1951*, Appendix D and Table 122.

[10] See DBS Catalogue No. 13-502, paragraph 450 and Table 25, footnote 2.

[11] Respondents to the Capital Expenditures Survey are requested to include, in capital expenditures, expenditures on imported second-hand machinery and equipment since such goods are new additions to the Canadian domestic stock of capital.

Estimates of gross fixed capital formation: 1871-1925

Given the use of the "perpetual inventory" method, it is necessary, in order to open with stock estimates in 1926, to have a time series of gross fixed capital formation estimates for as many years prior to 1926 as required by the estimated "average economic life" of the fixed capital goods concerned. To obtain such estimates for the thirteen combined Major Groups in Manufacturing, it was necessary to process a considerable amount of historical data. The basic historical data themselves have only limited reliability with the consequent result that the final estimates, constructed by processes requiring varying degrees of arbitrariness and outright guesswork, must be viewed with considerable skepticism and should be taken only as preliminary estimates, subject to change as economic historians improve quantitative interpretations which can be made with the basic source data.

The basic source data used to provide historical estimates of gross fixed capital formation in Manufacturing are taken from the first five Decennial Censuses of Canada, the two Postal Censuses of Manufacturers, and the DBS Annual Census of Industry, 1917-1943, in which estimates of the value of capital invested by industry were reported.

To assemble these data into useful form, it was necessary that the basic data be retabulated on the basis of the DBS 1948 Standard Industrial Classification.[12] Needless to say, the problems associated with this attempted retabulation were many and are reviewed by Professor Bertram in his paper "Historical statistics on growth and structure of Manufacturing in Canada, 1870-1957", presented at the Canadian Political Science Association 1962 Conference on Statistics.[13]

During the period 1917 to 1943, respondents to the Census of Industry were asked to report, in general, the value of capital invested in plant, machinery and equipment, inventories and short term claims (e.g., bank deposits, accounts receivable). The many problems connected with obtaining satisfactory estimates of the value of fixed capital led the DBS to drop such questions from the 1944 Census of Industry. However, an attempt was made to maintain the series of the value of fixed capital by using data supplied by the Capital Expenditures Survey and material contained in *Taxation Statistics*. In 1953, these estimates, owing to their crudeness and lack of firm conceptual basis, were dropped.[14]

In none of the sources from 1870 to 1943 can a satisfactory discussion be found as to the principles of valuation used in reporting capital invested. This introduces an unmeasurable amount of potential bias in the time series data since, especially in the earlier years before the emergence of corporate income tax legislation, the concept of net income and appropriate values for fixed assets were not uniform.[15] The procedure[16] followed by DBS in attempting to maintain the capital invested data from 1944 to 1952 would suggest, that in 1943, it was assumed respondents were reporting book value of fixed assets in terms of original cost less accumulated depreciation but there is no guarantee that respondents to the early decennial census inquiries did not report fixed assets gross of accumulated depreciation. To the extent that this shift in valuation basis occurred, the time series data, interpreted as book value data at original cost less accumulated depreciation, has a long term downward bias. However, it was not feasible to attempt any corrections to the reported data to rectify this potential bias.

The DBS Fixed Capital Stocks Project was primarily interested in the value of fixed capital invested and subsequent discussion will be concerned only with these elements of the reporting entity's balance sheet.

The adjusted data of fixed capital invested during the period 1870 to 1915 are given in Section IV, Table 7.[17]

To arrive at the data in Section IV, Table 7, the following procedure was undertaken. First, no adjustment was made to allow for the incomplete coverage of the 1901 and 1911 Decennial Censuses and the 1916 Postal Census. It was felt that Manufacturing entities with less than "five hands" employed or a gross value of production of less than $2,500 would have little fixed capital. Only in the 1906 Postal Census were capital invested figures on both full and limited coverage basis presented. The implied blow-up ratios,[18] however, it was felt, could not be used as the 1906 Postal Census is regarded as less reliable than others. Moreover, in view of how suspect the original data must be, the small adjustments necessary to allow for full coverage would not really improve the data appreciably. In various basic sources, the value of capital invested was presented in different combinations (for example, in the 1891 Census a complete breakdown into land, buildings, machinery and tools and working capital was provided whereas in 1870 only total capital invested is reported), and, therefore, some estimation, to provide comparable data, was necessary.

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[12] This work was greatly aided by the contributions and criticisms of Professor G.W. Bertram. The results of this work were incorporated in the Canadian Political Science Association volume on *Historical Statistics of Canada* (eds. M.C. Urquhart and K.A.H. Buckley), (Toronto: Macmillan, 1965).

[13] See also G.W. Bertram, "Economic Growth in Canadian Industry, 1870-1915: the staple model and the take-off hypothesis", *Canadian Journal of Economics and Political Science*, XXIV, May 1963, pp. 159-184.

[14] See DBS Catalogue No. 31-201, *General Review of Manufacturing Industries of Canada, 1952*, p. 44.

[15] Cf. G.O. May, "Changes in the accounting treatment of capital items during the last fifty years", *Problems of Capital Formation: Concepts, Measurement, and Controlling Factors* (Princeton: Princeton University Press for the NBER, Inc. 1957) and American Institute of Accountants Study Group on Business Income, *Changing Concepts of Business Income* (New York: The Macmillan Company, 1952).

[16] See DBS Catalogue No. 31-201 *op. cit.*, p. 44.

[17] For comments on early American Census data with respect to capital invested in Manufacturing-comments which, in most cases, may be equally applied to the Canadian data-see D. Creamer, S. Dobrovolsky and I. Borenstein, *Capital in Manufacturing and Mining: Its Formation and Financing*, Appendix A (Princeton: Princeton University Press for the NBER, Inc., 1960).

[18] See Section IV, Table 8.

TABLE 7. Estimated Value of Fixed Capital Invested, by Combined DBS 1948 S.I.C. Major Groups, Manufacturing, 1870-1943

Year	Food and beverages				Tobacco, rubber and leather				Textile products				Clothing			
	Land	Buildings and fixtures	Machinery and tools	Total fixed capital invested	Land	Buildings and fixtures	Machinery and tools	Total fixed capital invested	Land	Buildings and fixtures	Machinery and tools	Total fixed capital invested	Land	Buildings and fixtures	Machinery and tools	Total fixed capital invested
	millions of original cost dollars															
1870	1.1	3.1	3.2	7.4	0.4	1.4	1.0	2.8	0.2	0.8	1.7	2.7	0.1	0.4	0.4	0.9
1880	2.2	6.1	6.3	14.6	1.0	3.1	2.2	6.3	0.5	1.9	4.2	6.6	0.5	1.2	1.2	2.9
1890	5.0	13.7	14.2	32.9	1.5	4.5	3.2	9.2	1.4	5.4	11.6	18.4	1.0	2.3	1.7	5.0
1900	4.5	17.1	16.1	37.7	1.0	3.6	3.5	8.1	2.2	7.7	12.8	22.7	1.1	2.9	2.8	6.8
1905	7.6	29.1	27.4	64.1	1.4	5.1	5.1	11.6	2.5	8.7	14.5	25.7	2.0	5.3	5.1	12.4
1910	10.1	38.6	36.4	85.1	2.7	9.6	9.5	21.8	3.1	10.9	18.1	32.1	3.2	8.5	8.2	19.9
1915	22.1	84.3	45.8	152.2	3.6	16.6	13.7	33.9	4.3	15.0	14.0	33.3	3.8	10.2	8.0	22.0
1917	117.0		57.3	174.3	23.7		16.6	40.3	22.0		29.3	51.3	21.2		13.2	34.4
1918	126.7		61.2	187.9	28.8		14.1	42.9	28.2		31.1	59.3	22.7		14.0	36.7
1919	133.4		62.8	196.2	29.5		18.3	47.8	30.6		36.1	66.7	22.2		14.2	36.4
1920	147.5		74.6	222.1	36.5		23.3	59.8	37.7		43.4	81.1	24.9		16.6	41.5
1921	142.8		87.5	230.3	38.9		26.6	65.5	39.4		44.4	83.8	23.3		17.6	40.9
1922	146.7		93.7	240.4	40.1		27.6	67.7	39.9		48.0	87.9	22.0		19.0	41.0
1923	151.6		101.3	252.9	41.7		30.1	71.8	44.4		51.2	95.6	22.8		19.7	42.5
1924	163.6		104.3	267.9	43.6		28.9	72.5	48.8		57.2	106.0	25.5		20.0	45.5
1925	175.7		102.9	278.6	44.4		29.6	74.0	50.9		59.8	110.7	26.0		20.2	46.2
1926	187.7		103.1	290.8	44.5		29.6	74.1	52.8		61.9	114.7	26.3		20.9	47.2
1927	199.7		113.1	312.8	44.6		29.9	74.5	57.1		67.1	124.2	27.1		21.8	48.9
1928	212.0		121.5	333.5	46.2		31.0	77.2	60.5		71.0	131.5	29.1		23.8	52.9
1929	223.8		123.2	347.0	48.0		32.6	80.6	64.1		75.2	139.3	31.1		26.1	57.2
1930	226.8		124.9	351.7	48.4		32.9	81.3	66.5		78.1	144.6	31.8		26.6	58.4
1931	228.2		125.6	353.8	48.2		32.8	81.0	69.0		81.1	150.1	32.8		26.5	59.3
1932	214.8		118.2	333.0	46.8		31.8	78.6	66.9		78.6	145.5	30.3		25.1	55.4
1933	207.2		114.0	321.2	46.2		31.4	77.6	65.2		76.6	141.8	28.8		23.3	52.1
1934	203.4		111.9	315.3	46.4		31.5	77.9	75.3		64.2	139.5	29.4		23.5	52.9
1935	200.2		110.2	310.4	46.3		31.3	77.6	63.7		74.8	138.5	32.9		24.8	57.7
1936	199.6		109.8	309.4	45.5		30.7	76.2	53.2		62.5	115.7	34.6		25.5	60.1
1937	205.0		112.8	317.8	46.4		31.1	77.5	51.7		60.7	112.4	35.4		25.9	61.3
1938	201.9		111.1	313.0	46.5		31.3	77.8	50.0		58.8	108.8	35.2		25.6	60.8
1939	203.5		112.0	315.5	45.7		30.5	76.2	56.8		66.6	123.4	35.5		25.8	61.3
1940	212.5		116.9	329.4	46.7		31.1	77.8	59.2		69.6	128.8	34.6		24.9	59.5
1941	215.9		118.8	334.7	42.6		27.6	70.2	59.6		70.0	129.6	38.0		26.4	64.4
1942	223.6		123.1	346.7	44.1		28.5	72.6	61.0		71.7	132.7	40.2		27.5	67.7
1943	222.4		122.4	344.8	42.7		27.5	70.2	59.6		69.9	129.5	40.9		27.6	68.5

Year	Wood products				Paper products				Printing, publishing and allied industries				Iron and steel products			
	Land	Buildings and fixtures	Machinery and tools	Total fixed capital invested	Land	Buildings and fixtures	Machinery and tools	Total fixed capital invested	Land	Buildings and fixtures	Machinery and tools	Total fixed capital invested	Land	Buildings and fixtures	Machinery and tools	Total fixed capital invested
	millions of original cost dollars															
1870	2.4	2.8	4.5	9.7	0.1	0.2	0.2	0.5	0.1	0.3	1.0	1.4	1.0	1.8	2.7	5.5
1880	4.0	4.7	7.6	16.3	0.4	0.5	0.7	1.6	0.2	0.7	2.2	3.1	2.4	4.4	6.5	13.3
1890	8.6	10.0	16.4	35.0	1.2	1.7	2.3	5.2	0.4	1.4	4.1	5.9	4.6	8.5	12.6	25.7
1900	5.2	9.5	17.5	32.2	1.5	4.8	9.0	15.3	1.0	2.3	6.0	9.3	3.2	7.1	14.9	25.2
1905	11.3	20.7	38.2	70.2	2.0	6.3	11.8	20.1	1.4	3.3	8.5	13.2	5.1	11.3	23.7	40.1
1910	19.5	35.6	65.7	120.8	3.9	12.6	23.5	40.0	1.9	4.3	11.3	17.5	10.1	22.5	47.2	79.8
1915	28.3	51.7	47.7	127.7	18.9	60.5	36.2	115.6	3.2	7.4	17.0	27.6	21.8	48.3	59.7	129.8
1917	56.8		66.5	123.3	89.4		64.5	153.9	14.3		21.2	35.5	97.5		102.7	200.2
1918	59.6		69.0	128.6	123.6		64.4	188.0	15.2		22.3	37.5	104.4		109.0	213.4
1919	80.8		71.2	152.0	126.0		80.1	206.1	17.7		23.9	41.6	116.9		109.9	226.8
1920	74.9		52.7	127.6	144.6		113.6	258.2	18.3		27.2	45.5	124.7		121.5	246.2
1921	78.6		59.0	137.6	171.6		116.4	288.0	20.2		27.4	47.6	135.9		126.0	261.9
1922	78.4		45.5	123.9	220.1		83.7	303.8	20.0		30.2	50.2	118.4		110.9	229.3
1923	82.3		42.1	124.4	240.0		104.3	344.3	22.6		36.6	59.2	111.8		110.3	222.1
1924	83.6		66.3	149.9	245.2		128.3	373.5	25.3		37.1	62.4	113.1		110.9	224.0
1925	95.0		75.2	170.2	250.7		119.2	369.9	26.7		39.0	65.7	119.5		117.2	236.7
1926	83.6		66.3	149.9	256.0		149.0	405.0	27.9		40.8	68.7	122.6		120.1	242.7
1927	83.0		65.7	148.7	297.4		173.1	470.5	30.2		44.2	74.4	127.5		125.0	252.5
1928	86.8		68.8	155.6	340.9		198.5	539.4	33.5		48.9	82.4	136.7		134.0	270.7
1929	90.7		71.9	162.6	340.0		197.9	537.9	37.1		54.2	91.3	147.8		144.8	292.6
1930	95.9		76.0	171.9	376.3		219.1	595.4	37.1		54.2	91.3	147.7		144.8	292.5
1931	72.3		57.3	129.6	338.9		197.4	536.3	36.5		53.5	90.0	138.3		135.6	273.9
1932	61.9		49.1	111.0	334.3		194.6	528.9	35.7		52.2	87.9	131.5		128.8	260.3
1933	57.1		45.3	102.4	316.3		184.2	500.5	35.0		51.1	86.1	131.8		129.2	261.0
1934	54.9		43.4	98.3	312.8		182.2	495.0	35.5		52.0	87.5	121.8		119.4	241.2
1935	54.3		43.1	97.4	315.7		183.8	499.5	34.4		50.3	84.7	117.9		115.5	233.4
1936	55.0		43.6	98.6	304.8		177.4	482.2	34.6		50.7	85.3	118.9		116.6	235.5
1937	58.1		46.0	104.1	324.6		189.0	513.6	34.3		50.3	84.6	118.7		116.4	235.1
1938	56.8		45.0	101.8	334.7		194.9	529.6	34.7		50.8	85.5	118.9		116.6	235.5
1939	54.9		43.4	98.3	331.5		193.0	524.5	35.1		51.4	86.5	120.5		118.1	238.6
1940	56.9		45.1	102.0	329.0		191.5	520.5	35.0		51.2	86.2	129.0		126.5	255.5
1941	60.5		48.0	108.5	336.1		195.7	531.8	35.3		51.7	87.0	165.1		161.8	326.9
1942	65.4		51.8	117.2	323.1		188.1	511.2	35.3		51.6	86.9	208.9		204.7	413.6
1943	68.5		54.3	122.8	316.4		184.2	500.6	34.8		51.0	85.8	255.0		250.5	505.5

TABLE 7. Estimated Value of Fixed Capital Invested, by Combined DBS 1948 S.I.C. Major Groups, Manufacturing, 1870 - 1943 – Concluded

Year	Transportation equipment				Non-ferrous metal products and electrical apparatus and supplies				Non-metallic mineral products and products of petroleum and coal				Chemical products			
	Land	Buildings and fixtures	Machinery and tools	Total fixed capital invested	Land	Buildings and fixtures	Machinery and tools	Total fixed capital invested	Land	Buildings and fixtures	Machinery and tools	Total fixed capital invested	Land	Buildings and fixtures	Machinery and tools	Total fixed capital invested
	millions of original cost dollars															
1870	0.4	0.8	0.5	1.7	–	0.1	0.1	0.2	0.4	0.4	0.5	1.3	0.1	0.3	0.3	0.7
1880	0.8	1.8	1.2	3.8	0.1	0.4	0.5	1.0	0.8	0.9	0.9	2.6	0.3	0.7	0.7	1.7
1890	1.6	3.4	2.2	7.2	0.4	1.4	1.9	3.7	1.8	1.8	1.9	5.5	0.5	1.2	1.1	2.8
1900	2.8	4.0	4.6	11.4	1.2	3.2	6.9	11.3	0.9	1.0	1.7	3.6	0.5	1.8	1.8	4.1
1905	5.6	7.9	9.1	22.6	2.9	7.8	17.3	28.0	7.8	7.8	13.6	29.2	0.8	2.9	2.9	6.6
1910	6.6	9.5	10.9	27.0	4.6	12.4	26.5	43.5	9.0	9.4	16.3	34.7	1.9	6.9	6.8	15.6
1915	22.0	31.3	24.6	77.9	9.1	24.6	20.5	54.2	32.5	36.7	23.5	92.7	5.4	19.6	10.5	35.5
1917	94.3		56.6	150.9	35.8		25.5	61.3	61.4		23.7	85.1	57.2		40.3	97.5
1918	85.5		34.4	119.9	30.9		30.4	61.3	74.1		26.3	100.4	52.0		30.7	82.7
1919	66.7		34.9	101.6	47.0		27.2	74.2	101.9		24.0	125.9	43.3		11.6	54.9
1920	64.6		43.9	108.5	62.6		33.2	95.8	105.6		26.8	132.4	42.2		14.3	56.5
1921	49.9		43.1	93.0	63.4		39.8	103.2	92.2		26.5	118.7	46.8		16.5	63.3
1922	57.4		39.3	96.7	61.9		38.7	100.6	120.4		25.0	145.4	47.2		17.8	65.0
1923	69.3		36.3	105.6	59.6		39.8	99.4	112.8		37.8	150.6	48.7		21.8	70.5
1924	68.6		41.2	109.8	62.5		41.5	104.0	107.1		30.9	138.0	48.6		20.7	69.3
1925	84.6		50.7	135.3	59.3		39.3	98.6	104.8		30.8	135.6	49.7		21.2	70.9
1926	84.9		50.9	135.8	67.3		44.8	112.1	109.6		31.9	141.5	52.6		22.4	75.0
1927	88.5		53.1	141.6	69.0		45.7	114.7	116.3		34.0	150.3	54.2		23.1	77.3
1928	96.3		57.8	154.1	79.0		52.4	131.4	101.0		33.0	134.0	61.2		26.1	87.3
1929	104.9		62.9	167.8	98.7		65.4	164.1	111.6		36.6	148.2	66.1		28.2	94.3
1930	101.0		60.6	161.6	118.2		78.2	196.4	126.4		41.4	167.8	68.3		29.2	97.5
1931	87.6		52.5	140.1	122.6		81.2	203.8	121.8		39.3	161.1	66.1		28.2	94.3
1932	81.8		49.1	130.9	102.6		67.9	170.5	114.7		37.0	151.7	65.8		28.0	93.8
1933	81.9		49.2	131.1	97.8		64.6	162.4	115.1		36.7	151.8	63.3		27.0	90.3
1934	79.4		47.6	127.0	96.4		63.8	160.2	111.2		35.6	146.8	63.3		27.0	90.3
1935	79.0		47.4	126.4	97.1		64.3	161.4	102.0		33.1	135.1	62.0		26.4	88.4
1936	79.1		47.5	126.6	96.6		63.9	160.5	101.0		33.3	134.3	60.7		25.9	86.6
1937	85.1		51.0	136.1	101.9		67.3	169.2	100.9		33.3	134.2	63.4		27.1	90.5
1938	87.8		52.6	140.4	112.3		74.1	186.4	99.8		32.4	132.2	62.3		26.6	88.9
1939	90.2		54.2	144.4	113.8		75.3	189.1	97.7		31.8	129.5	62.2		26.6	88.8
1940	95.3		57.2	152.5	135.2		89.1	224.3	98.9		32.0	130.9	74.0		31.6	105.6
1941	110.6		66.4	177.0	160.4		105.7	266.1	99.5		32.0	131.5	136.2		58.1	194.3
1942	123.8		74.2	198.0	191.2		126.0	317.2	101.1		32.4	133.5	167.8		71.6	239.4
1943	146.4		87.9	234.3	213.0		140.3	353.3	103.0		32.3	135.3	235.1		100.3	335.4

Year	Miscellaneous manufacturing industries				Total manufacturing			
	Land	Buildings and fixtures	Machinery and tools	Total fixed capital invested	Land	Buildings and fixtures	Machinery and tools	Total fixed capital invested
	millions of original cost dollars							
1870	–	0.1	0.1	0.2	6.3	12.5	16.2	35.0
1880	0.1	0.3	0.3	0.7	13.3	26.7	34.5	74.5
1890	0.2	0.5	0.5	1.2	28.2	55.8	73.7	157.7
1900	0.3	1.5	2.5	4.3	25.4	66.5	100.1	192.0
1905	0.3	1.6	2.7	4.6	50.7	117.8	179.9	348.4
1910	0.4	2.3	3.8	6.5	77.0	183.1	284.2	544.3
1915	1.0	5.2	4.1	10.3	176.0	411.4	325.3	912.7
1917	6.8		7.3	14.1	697.4		524.7	1,222.1
1918	8.1		5.5	13.6	759.8		512.4	1,272.2
1919	7.1		5.7	12.8	823.1		519.9	1,343.0
1920	9.0		5.2	14.2	893.1		596.3	1,489.4
1921	9.3		5.2	14.5	912.3		636.0	1,548.3
1922	9.6		5.7	15.3	982.1		585.1	1,567.2
1923	11.7		6.1	17.8	1,019.3		637.4	1,656.7
1924	10.4		6.9	17.3	1,045.9		694.2	1,740.1
1925	10.3		6.9	17.2	1,097.6		712.0	1,809.6
1926	9.9		6.7	16.6	1,125.7		748.4	1,874.1
1927	10.1		6.8	16.9	1,204.7		802.6	2,007.3
1928	10.4		7.0	17.4	1,293.6		873.8	2,167.4
1929	10.4		6.9	17.3	1,374.3		925.9	2,300.2
1930	9.6		6.4	16.0	1,454.0		972.4	2,426.4
1931	9.5		6.4	15.9	1,371.8		917.4	2,289.2
1932	8.6		5.8	14.4	1,295.7		866.2	2,161.9
1933	8.4		5.7	14.1	1,254.1		838.3	2,092.4
1934	8.9		6.0	14.9	1,238.7		808.1	2,046.8
1935	8.8		5.9	14.7	1,214.3		810.9	2,025.2
1936	10.2		6.9	17.1	1,193.8		794.3	1,988.1
1937	8.3		5.6	13.9	1,233.8		816.5	2,050.3
1938	8.4		5.7	14.1	1,249.3		825.5	2,074.8
1939	8.7		5.9	14.6	1,256.1		834.6	2,090.7
1940	8.9		5.9	14.8	1,315.2		872.6	2,187.8
1941	13.4		9.0	22.4	1,473.2		971.2	2,444.4
1942	15.0		10.0	25.0	1,600.5		1,061.2	2,661.7
1943	16.9		11.3	28.2	1,754.7		1,159.5	2,914.2

Based on sources in which a breakdown was provided, ratios were determined to obtain breakdowns for sources in which none was provided. Section IV, Table 8, exemplifies the procedure followed by illustrating the adjustments made to the original data for the Food and Beverages Major Group. The assumption of intercensal stability in the distribution of total capital invested is, of course, questionable (particularly with respect to land), but available data do not permit a more satisfactory procedure.

The value of capital invested data, obtained from the Annual Census of Manufacturers 1917 to 1943, was next examined. An examination of the schedules from 1917 to 1943 revealed that, with respect to the value of fixed capital invested, instructions were changed in such a way as to impart some ambiguity to the data. Beginning in 1917, respondents were asked to report only the value of fixed capital owned. Leased capital goods were not to be reported by the lessee but it is not clear whether they were to be reported by the lessor. Furthermore, even though the question explicitly stated that leased capital was not to be reported by the lessee, general instructions asked the respondent to report "owned and borrowed" capital. In 1924, the respondent, acting as lessee, was also requested to provide an estimate of the value of the leased capital goods since the value of capital "employed" was required. In 1935, the respondent acting as lessee was requested, if he could not provide an estimate of the value of the leased capital, to report "Annual rentals paid". The answers to this question were not tabulated after 1936 and, in the actual tabulations for 1935 and 1936, instances were uncovered where the value of capital invested and rents paid data had been unfortunately combined. It was not found possible to correct the data either for the aggregation of owned and leased capital or the aggregation of capital and rents data. Moreover, for the years 1935 and 1936, where values of capital owned and rented were reported separately, examination of values reported for surrounding years suggests, as the schedule questions reveal, that the values were the sum of owned and rented capital goods.

As mentioned previously, there is no clear statement on any of the schedules examined as to the values of fixed capital to be reported. From 1930 on, respondents were asked to provide the "present value of land, buildings, fixtures, machinery and tools". Since it is clear that respondents would not have interpreted this as the discounted value of a flow of expected gross profits and since it is highly unlikely to be the current dollar written down replacement cost of capital, it seems reasonably safe to presume that values reported were book values net of accumulated depreciation.

In the use made of these data, it was assumed that the data showing the values of fixed capital invested were book values net of accumulated depreciation and pertained to the end of the calendar year. Respondents were asked, if possible, to report end of calendar year data but were allowed to report on the basis of their own fiscal year but, again, it is not feasible to correct the data on this account.

TABLE 8. Value of Capital Invested by Component 1870-1915: Original and Estimated Data, Food and Beverages Major Group

Year and comment	Original source data					Estimated data					
	Land	Buildings and fixtures	Machinery and tools	Working capital	Total capital invested	Land	Buildings and fixtures	Machinery and tools	Total fixed capital	Working capital	Total capital invested
	millions of original cost dollars										
1915:											
Establishments with gross value of production of over $2,500	106.4		45.8	102.5	254.7	22.1	84.3	45.8	152.2	102.5	254.7
Establishments employing 5 hands and over	..	..	..	..	248.9						
1910:											
Establishments employing 5 hands and over		85.1		93.6	178.7	10.1	38.6	36.4	85.1	93.6	178.7
1905:											
Establishments employing 5 hands and over	..	..	..	..	117.0						
All establishments		64.1		54.4	118.6	7.6	29.1	27.4	64.1	54.4	118.6
1900:											
Establishments employing 5 hands and over	4.5	17.1	16.1	41.3	79.1	4.5	17.1	16.1	37.7	41.3	79.1
Percentage distribution, fixed capital %	11.9	45.3	42.8		100.0						
Percentage distribution, land, buildings and fixtures %	20.8	79.2			100.0						
1890:											
All establishments	5.0	13.7	14.2	34.2	67.1	5.0	13.7	14.2	32.9	34.2	67.1
Percentage distribution %	7.5	20.4	21.2	50.9	100.0						
1880	..	..	..	..	29.8	2.2	6.1	6.3	14.6	15.2	29.8
1870	..	..	..	..	15.2	1.1	3.1	3.2	7.4	7.8	15.2

Note: 1. For the two Postal Censuses of 1906 and 1915 and the Decennial Census of 1911, value of capital invested data were assumed to be for 31 December 1905, 1915 and 1910 respectively. For the Decennial Censuses of 1911, 1891, 1881 and 1871, the data were supposed to relate to 31 December 1900, or 31 March 1901, and date most convenient to respondent; 6 April 1891, 4 April 1881 and 2 April 1871. It is assumed here that all data relate to 31 December year ending in 0 or 5.

2. Percentage distribution of total capital invested in 1890 applied to 1880 and 1870 total value of capital invested data to obtain breakdowns for those years. Percentage distribution of fixed capital in 1900 applied to total fixed capital in 1905 and 1910 to obtain breakdowns for those years. Percentage distribution between land and buildings and fixtures in 1900 applied to total land, buildings and fixtures in 1915 to obtain breakdown.

.. not available.

Since it is impossible to separate the value of land from the value of buildings and fixtures, and owned from rented capital, it is assumed that, for each reporting unit, the time series of the value of fixed capital "employed" satisfactorily represents the trend in the value of fixed capital owned. One further adjustment was made. From 1917 to 1923, a breakdown between land, buildings and fixtures and machinery and tools was provided. On the basis of the average percentage distribution of these two components, the total fixed capital invested for the years 1924 to 1943 was broken down into the same two components.

The averaging of the ratios for 1917 to 1923 resulted, in some cases, in breaks in the two series of value of capital invested in land, buildings and fixtures and machinery and tools between 1923 and 1924. On the basis of graphical analysis, the breaks were removed.

This procedure can again be exemplified by referring to Section IV, Table 9, where it is illustrated for the Food and Beverages Major Group. With respect to Section IV, Table 9, it should be pointed out that, in a number of cases, certain adjustments had to be made, both to the data tabulated from the Annual Census of Industry (1917-1943) and from the earlier Census sources. For example, with respect to the Major Group, Products of Petroleum and Coal, in the earlier Census data, "Gas works" were replaced by "Gas, lighting and heating". The former industry apparently included not only the manufacture of coal gas but also the distribution of gas (natural and coal) while the latter industry includes only the activity of manufacturing coal gas for lighting and heating purposes. At the cost of introducing a downward bias in the early estimates of capital invested in this Major Group, the data for "Gas works" were removed from the time series. Another example, in Chemical Products, it was noted that the series of the value of capital invested peaked sharply in 1917-18. Upon examination, it was discovered that capital invested in the activity of manufacturing explosives and ammunition increased sharply in those years and the series was correspondingly maintained without change. Each series was examined in the same way, but, in the final analysis, some movements and breaks in the various series could not be satisfactorily explained.

These data were used to derive estimates of gross fixed capital formation. For the period 1917 to 1943, the procedure was based on the following identity:

$$K_t^N \equiv K_{t-1}^N + GFCF_t - D_t$$

i.e., the net book value of capital invested at the end of the year t is equal to the net book value of capital invested at the end of year t-1 plus gross fixed capital formation in current dollars in the year t minus depreciation in original dollars in the year t.

TABLE 9. Value of Capital Invested by Component 1917-43: Original and Estimated Data Food and Beverages Major Group

Year	(1) Land, building and fixtures	(2) Machinery and tools	(3) Total	(4) Ratio (1)/(3) 1917-23 $\bar{X}$ = .645	(5) Estimate (1) by applying mean ratio from (4) to (3)	(6) Estimate (2) (3)-(5)	(7) Revised (5) linear interpolation 1923-29	(8) Revised (6) (3)-(7)
	millions of original cost dollars							
1917	117.0	57.3	174.3	0.671				
1918	126.7	61.2	187.9	0.674				
1919	133.4	62.8	196.2	0.680				
1920	147.5	74.6	222.1	0.664				
1921	142.8	87.5	230.3	0.620				
1922	146.7	93.7	240.4	0.610				
1923	151.6	101.3	252.9	0.599				
1924			267.9		172.8	95.1	(163.6)	(104.3)
1925			278.6		179.7	98.9	(175.7)	(102.9)
1926			290.8		187.6	103.2	(187.7)	(103.1)
1927			312.8		201.8	111.0	(199.7)	(113.1)
1928			333.5		215.1	118.4	(212.0)	(121.5)
1929			347.0		223.8	123.2		
1930			351.7		226.8	124.9		
1931			353.8		228.2	125.6		
1932			333.0		214.8	118.2		
1933			321.2		207.2	114.0		
1934			315.3		203.4	111.9		
1935			310.4		200.2	110.2		
1936			309.4		199.6	109.8		
1937			317.8		205.0	112.8		
1938			313.0		201.9	111.1		
1939			315.5		203.5	112.0		
1940			329.4		212.5	116.9		
1941			334.7		215.9	118.8		
1942			346.7		223.6	123.1		
1943			344.8		222.4	122.4		

Note: Columns (1), (2) and (3). Data obtained from retabulation of Census of Industry data.
Columns (7) and (8). See text.

At the level of detail with which the DBS Fixed Capital Stocks Project was concerned, in order for the formula to be useful, it must be assumed that (i) no capital goods were sold or discarded from the stock or, if there were, the amounts were negligible, (ii) values reported were not revalued by respondents to correct for price change and (iii) coverage was complete (or did not significantly vary) and that the various industries were consistently classified throughout the time period involved. The mere outlining of the necessary assumptions suggests that any resulting estimation of gross fixed capital formation must be handled with a degree of skepticism. Given estimates of gross fixed capital formation by Major Groups for the period 1926-43 from *PPI 1926-1951* as well as the net book value of capital invested by Major Groups as tabulated and adjusted by the DBS Fixed Capital Stocks Project, annual estimates of original cost depreciation can be generated and reducing balance rates of depreciation can be approximated. The procedure is illustrated for the construction-type component of the fixed reproducible stock of the Food and Beverages Major Group in Section IV, Table 10. Before commenting upon the difficulties involved, it would be useful to proceed somewhat further. In order to arrive at annual approximations to gross fixed capital formation, the rates of depreciation derived above on the basis of the 1926-43 data were applied to the net book values of capital invested by Major Groups from 1917 to 1942. The first-run results for the construction-type components of the Food and Beverages Major Group is given in Section IV, Table 11.

Since all estimates of gross fixed capital formation by Major Groups prior to 1926 will essentially be used as extrapolators of the *PPI 1926-1951* estimates, differences in level between the estimated and official data on gross fixed capital formation, such as evidenced in Section IV, Table 11, are not of primary concern. These early estimates of gross fixed capital formation need not have great accuracy with respect to levels and turning points but should, when used as extrapolators, satisfactorily depict the trend of capital formation. In a surprising number of instances over all Major Groups in Manufacturing, the two sets of gross fixed capital formation by components estimates (the DBS Fixed Capital Stocks Project estimates and the official *PPI 1926-1951* estimates) were sympathetic in their movement. In general, though a number of arbitrary adjustments had to be made (e.g., in the cases where the extrapolator appeared negative, it was reset at zero), the official estimates of gross fixed capital formation by component were run back on the DBS Fixed Capital Stocks Project estimates to 1918.

TABLE 10. Preliminary Estimates of Depreciation in Original Cost Dollars, Construction-type Component of Fixed Reproducible Stocks, Food and Beverages, 1926-43

Year	(1) Gross fixed capital formation construction	(2) Net book value construction component year t	(3) Net book value construction component year t−1	(4) Depreciation year t (3)−(2)+(1)	(5) Ratio (4) / (3)
1926	2.7	187.7	175.7	− 9.3	− 0.053
1927	4.4	199.7	187.7	− 7.6	− 0.040
1928	9.6	212.0	199.7	− 2.7	− 0.014
1929	13.5	223.8	212.0	+ 1.7	0.008
1930	7.4	226.8	223.8	+ 4.4	0.020
1931	7.2	228.2	226.8	+ 5.8	0.026
1932	4.9	214.8	228.2	+ 18.3	0.080
1933	0.8	207.2	214.8	+ 8.4	0.039
1934	1.6	203.4	207.2	+ 5.4	0.026
1935	3.5	200.2	203.4	+ 6.7	0.033
1936	5.3	199.6	200.2	+ 5.9	0.029
1937	8.5	205.0	199.6	+ 3.1	0.016
1938	7.8	201.9	205.0	+ 10.9	0.053
1939	7.5	203.5	201.9	+ 5.9	0.029
1940	10.7	212.5	203.5	+ 1.7	0.008
1941	9.7	215.9	212.5	+ 6.3	0.030
1942	8.5	223.6	215.9	+ 0.8	0.004
1943	6.1	222.4	223.6	+ 7.3	0.033

Source: See text.

$\sum_{26}^{43} 0.327$

$\sum_{29}^{43} 0.434$

1926-43 $\bar{X}$ = 0.018

1929-43 $\bar{X}$ = 0.029

TABLE 11. Estimated (1918-43) and PPI 1926-1951 (1926-43) Gross Fixed Capital Formation, Construction, Food and Beverages

Year	(1) Net book value of capital invested	(2) (1) x [1 – 0,029] lagged 1 year	(3) Estimated GFCF (1) – (2)	(4) Actual GFCF	(5) Difference (3) – (4)
1917	117.0				
1918	126.7	113.6	13.1		
1919	133.4	123.0	10.4		
1920	147.5	129.5	18.0		
1921	142.8	143.2	– 0.4		
1922	146.7	138.7	8.0		
1923	151.6	142.4	9.2		
1924	163.6	147.2	16.4		
1925	175.7	158.9	16.8		
1926	187.7	170.6	17.1	2.7	14.4
1927	199.7	182.3	17.4	4.4	13.0
1928	212.0	193.9	18.1	9.6	8.5
1929	223.8	205.9	17.9	13.5	4.4
1930	226.8	217.3	9.5	7.4	2.1
1931	228.2	220.2	8.0	7.2	0.8
1932	214.8	221.6	– 6.8	4.9	– 11.7
1933	207.2	208.6	– 1.4	0.8	– 2.2
1934	203.4	201.2	2.2	1.6	0.6
1935	200.2	197.5	2.7	3.5	– 0.8
1936	199.6	194.4	5.2	5.3	– 0.1
1937	205.0	193.8	11.2	8.5	2.7
1938	201.9	199.1	2.8	7.8	– 5.0
1939	203.5	196.0	7.5	7.5	0.0
1940	212.5	197.6	14.9	10.7	4.2
1941	215.9	206.3	9.6	9.7	– 0.1
1942	223.6	209.6	14.0	8.5	5.5
1943	222.4	217.1	5.3	6.1	– 0.8

Source: See text.

To obtain estimates of gross fixed capital formation by component prior to 1918, even greater arbitrariness and ingenuity were required. Since for this period only census data estimates of the net book value of capital invested were available, an intercensal interpolator was required. If a satisfactory interpolator could be found, intercensal estimates of gross fixed capital formation can be found by another application of the identity together with the following assumptions:

(i) reducing balance rate of depreciation is known (r)

(ii) net book values at original cost at Census year end are known ($K^N_{t_n}$, $K^N_{t_o}$)

(iii) pattern of gross fixed capital formation over intercensal period (based on movement of interpolator) is known (X_{t_j})

(iv) gross fixed capital formation is evenly distributed over each year.

Then

$$K^N_{t_n} \equiv K^N_{t_o}(1-r)^n + X_{t_1}(1-r)\frac{2n-1}{2} + X_{t_2}(1-r)\frac{2n-3}{2} + \ldots + X_{t_n}(1-r)\frac{2n-(2n-1)}{2}$$

If r, $K^N_{t_n}$, $K^N_{t_o}$ and the relationship among X_{t_i}'s are known, then X_{t_i} can be found for all i's.

For the component machinery and equipment, the interpolator used for all Major Groups was developed largely from historical estimates of capital formation prepared by K. Buckley in his *Capital Formation in Canada 1896-1930* and "Historical estimates of migration and investment in Canada", a paper (mimeo.) presented to the CPSA 1960 Conference on Statistics.[19] The development of the basic data used for the interpolator is illustrated in Section IV, Table 12. By linking the various series given in Section IV, Table 12, an interpolator for the whole period, 1871-1917, can be constructed. However, we used the data in Section IV, Table 12, to obtain our X_i's for the periods:

(1) 1871-1880
(2) 1881-1890
(3) 1891-1900
(4) 1901-1905
(5) 1906-1910
(6) 1911-1915
(7) 1916-1917

[19] The paper finally appeared as "Historical estimates of internal migration in Canada", in CPSA *Conference on Statistics 1960* (eds. E.F. Beach and J.C. Weldon) with the historical estimates excluded. See also Buckley's, "Capital formation in railway transport and telegraphs in Canada, 1850 to 1930", a paper (mimeo.) presented to the 1962 CPSA Conference on Statistics.

The interpolators for these periods are shown in Section IV, Table 13. The use of such interpolators is shown in Section IV, Table 14, which reproduces the procedure followed for deriving estimates of gross fixed capital formation for the machinery and equipment component of the Food and Beverages Major Group for the period 1871-80. The resulting estimates of gross fixed capital formation required a number of adjustments. Level breaks between various intercensal estimates had to be smoothed; in many cases the rates of reducing balance depreciation generated by the study for the period 1926-43 had to be revised before use; and, in certain instances, some original Census value of capital invested data had to be discarded in the interpolation process. Before evaluating these estimates, it will be useful to explain how the estimates of gross fixed capital formation for construction were prepared. It will be necessary to assume here that price indexes for both construction and machinery and equipment components are available (they are described in sub-section (b)). The method finally chosen consists of the following. For each of the thirteen combined Major Groups, estimates of constant 1949 dollar construction and machinery and equipment expenditures for the years 1926 to 1930 were derived and mean ratios of construction to machinery and equipment expenditures for those years were calculated. For the period 1896 to 1925 constant 1949 dollar machinery and equipment expenditure estimates were obtained by means of deflating the current dollar data described above by means of price indexes described below in subsection (b). Application of the mean ratio to the constant 1949 dollar estimates of machinery and equipment expenditures resulted in estimates of constant 1949 dollar construction-type expenditures for the years 1896 to 1925. Because the price indexes of machinery and equipment were not carried back prior to 1896, the resulting constant 1949 dollar estimates of construction-type expenditures were converted to current dollars and the mean ratios of such expenditures to current dollar machinery and equipment expenditures were calculated. Then, on the basis of the current dollar estimates of machinery and equipment expenditures back to 1871, comparable construction-type expenditures were also derived back to 1871 by application of the second mean ratio. A crude check on the level of the resulting estimates was made with the use of the "capital invested" data derived from the 1890 and 1900 Decennial Census data. Given the (assumed) net book value of construction-type assets in 1890, with an approximate economic life of assets taken as 50 years, so that reducing balance rate of depreciation would be approximately 4 per cent, the net book value of such assets at the end of 1900 would be $1890\ (1-0.04)^{10}$. The undepreciated portion of capital invested of any intercensal year, say X_i $(i = 1, \ldots, 10)$ at the end of 1900 would be $X_i\ [1-0.04]^{10-i}$. The sum of these undepreciated capital items, both the stock at the end of year 1890 and capital formation in the intervening years, should be equal, given the assumptions outlined above, to the net book value of construction-type assets in 1900. For some Major Groups, the poverty of the Census "capital invested" data simply prevented attaching even limited meaning to this check. If the comparison proved poor and the census data of capital invested appeared reasonably satisfactory, then after graphical examination, the level of the construction expenditures series was arbitrarily adjusted throughout 1871 to 1925. An example of this check is given in Section IV, Table 15.

For each of the thirteen combined Major Groups in Manufacturing, data obtained from the Capital Expenditures Survey permitted, for the years 1954 to 1960, a split of the gross fixed capital formation in construction into two parts: building and engineering. This split was arbitrarily carried back into the earlier estimates not to improve deflation procedures nor to take advantage of different "life" data for the different types of construction capital goods; it was done merely to facilitate estimation routines when the more reliable split became available in the year 1954.

Estimates of capital items charged to operating expenses were prepared for the period 1920-25 by taking, for each Major Group, the mean ratio of such expenses to gross fixed capital formation in machinery and equipment for the years 1926-30 and applying it to the estimates of gross fixed capital formation in machinery and equipment for the period 1920-25.

(b) Price Indexes

(i) Price indexes for the building and engineering construction components of gross fixed capital formation

Because of the complexity and changing characteristics of construction-type capital goods, the price index maker has, up until the present, with certain exceptions, been forced to fall back on rather unsatisfactory approximations to output price indexes for measuring the price change over time recorded by such capital goods. In general, the procedure has been to record the price movements shown by inputs such as labour and building materials which go into the production of such capital goods. The deflators used for the construction component of current dollar gross fixed capital formation in Manufacturing in this report represent unfortunately no improvement in such approximations to the desired output price indexes.[20]

In the Section on sources and methods dealing with current dollar gross fixed capital formation, it was indicated that for each combined Major Group in Manufacturing, construction-type capital expenditures were divided into sub-components: building and engineering-type construction capital expenditures.

[20] For such heterogeneous output, if it can be assumed that the constant dollar materials input can be accepted as an adequate proxy for constant dollar output, then an improved proxy to the desired output price index can be derived. See D.C. Dacy, "A price and productivity index for a nonhomogeneous product", *American Statistical Association Journal*, June 1964, pp. 469-480. On Dacy's assumptions it can be shown that a proxy to the desired output price index can actually be derived from the price index of materials and the changing share of the value of materials in the value of output. Dacy's approximations requires that the unit profit (gross) costs and unit non-labour non-material costs be relatively unimportant and that total factor productivity in the production of the heterogeneous output be satisfactorily captured by the implicit output per unit of labour input relationships. These considerations, plus data limitations, have prevented the use of Dacy's approximation to an output price index in this study.

TABLE 12. Basic Data for Preparation of Interpolator for Estimates of Gross Fixed Capital Formation, Machinery and Equipment by Major Group in Manufacturing

No.	Year	(1) Imports of machinery and equipment (excluding railway rolling stock) 1868-95	(2) Imports of all machinery and equipment 1868-95	(3) Imports of machinery and equipment (excluding railway rolling stock) 1895-1900	(4) Imports of all machinery and equipment 1895-1900	(5) Industrial, electrical and mining machinery and equipment: Production for domestic use	(6) Industrial, electrical and mining machinery and equipment: Imports and duties less re-exports and duty rebates	(7) Industrial, electrical and mining machinery and equipment: Total flow at producers' prices
1	1868	1.1	1.2					
2	1869	1.6	1.8					
3	1870	1.4	1.5					
4	1871	1.6	2.2					
5	1872	2.1	2.6					
6	1873	2.6	4.4					
7	1874	2.8	4.7					
8	1875	2.8	3.0					
9	1876	2.3	2.3					
10	1877	2.4	2.6					
11	1878	2.2	2.4					
12	1879	2.1	2.4					
13	1880	2.5	2.8					
14	1881	3.5	3.7					
15	1882	5.2	6.8					
16	1883	5.8	9.0					
17	1884	4.6	5.3					
18	1885	3.4	3.7					
19	1886	3.3	3.8					
20	1887	3.8	4.1					
21	1888	4.0	4.2					
22	1889	4.0	4.5					
23	1890	4.3	4.7					
24	1891	4.2	4.5					
25	1892	4.6	5.2					
26	1893	4.8	5.0					
27	1894	4.1	4.2					
28	1895	4.0	4.3	4.6	4.9			
29	1896	4.5	4.7	5.1	5.3			
30	1897			5.6	5.9			
31	1898			7.6	8.4			
32	1899			9.9	10.6			
33	1900			13.5	14.4	4	6	10
34	1901					5	6	11
35	1902					6	7	13
36	1903					7	8	15
37	1904					7	8	15
38	1905					7	9	16
39	1906					9	11	20
40	1907					11	14	25
41	1908					11	11	22
42	1909					12	13	24
43	1910					14	18	32
44	1911					16	23	39
45	1912					18	31	49
46	1913					18	31	49
47	1914					14	21	35
48	1915					8	22	30
49	1916					18	29	47
50	1917					24	32	56
51	1918					23	32	54
52	1919					22	34	55
53	1920					38	43	81
54	1921					38	30	68
55	1922					24	25	49
56	1923					33	28	62
57	1924					37	26	63
58	1925					36	30	66

Column: (1) Total imports (including duty) of machinery and equipment (not including railway rolling stock), fiscal years ending 30 June from K. Buckley, "Historical estimates of immigration and investment in Canada", Table 5. The estimate for 1896 was derived by the DBS Fixed Capital Stocks Project.
(2) See (1).
(3) and (4) as for (1) and (2), with source — *Trade of Canada*, relevant annual issues.

TABLE 12. Basic Data for Preparation of Interpolator for Estimates of Gross Fixed Capital Formation, Machinery and Equipment by Major Group in Manufacturing

(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	
Quinquennial estimates of (7) at purchasers' prices	Mining machinery and equipment: Domestic production	Mining machinery and equipment: Imports and duties less re-exports and duties rebates	(7)–[(9)+(10)] total flow at producers' prices of industrial and electrical machinery and equipment	(11) raised to purchasers' prices by relationship between (7) and (8)	(1) adjusted to calendar year basis	(3) adjusted to calendar year basis	(4) adjusted to calendar year basis	Imports, machinery and equipment	No.
					1.4				1
					1.5				2
					1.5				3
					1.8				4
					2.4				5
					2.7				6
					2.8				7
					2.6				8
					2.4				9
					2.3				10
					2.2				11
					2.3				12
					3.0				13
					4.4				14
					5.5				15
					5.2				16
					4.0				17
					3.4				18
					3.6				19
					3.9				20
					4.0				21
					4.2				22
					4.2				23
					4.4				24
					4.7				25
					4.6				26
					4.2				27
					4.2	4.8	5.1		28
						5.4	5.6		29
35						6.6	7.2		30
						8.8	9.5		31
						11.7	12.5		32
	–	1	9			14.0	15.0	13.0	33
	–	1	10	12		15.8	17.0	15.0	34
	–	1	12	14					35
84	–	1	14	17					36
	–	1	14	17					37
	–	1	15	18					38
	–	2	18	22					39
	–	2	23	28					40
152	–	1	21	26					41
	–	1	23	28					42
	–	2	30	37					43
	–	2	37	45					44
	–	2	47	58					45
248	–	2	47	58					46
	–	2	33	41					47
	–	2	28	34					48
	–	2	45	55					49
	–	2	54	67					50
361	–	2	52	64					51
	–	2	53	65					52
	1	2	78	96					53
	2	1	65	84					54
	1	2	46	60					55
400	1	2	58	75					56
	2	2	59	77					57
	1	3	62	81					58

Column: (5) (6) and (7) K. Buckley, *Capital Formation in Canada, 1896-1930*, Table C, Classes 2, 3 and 4.
(8) *Ibid*, Table D, Classes 2, 3 and 4.
(9) and (10) Based on commodity flow study of the DBS Fixed Capital Stocks Project.
(13), (14) and (15) Calendar year n data = ½ fiscal year n data + ½ fiscal year n + 1 data.
(16) K Buckley, *op. cit.*, Table C, Classes 1-11.

TABLE 13. Interpolators for X_i's Based on Data in Section IV, Table 12

Year	(1) 1871-80	(2) 1881-90	(3) 1891-1900	(4) 1901-05	(5) 1906-10	(6) 1911-15	(7) 1916-17
[illegible]	0.073						
[illegible]	0.098						
[illegible]	0.110						
1874	0.114						
[illegible]	0.106						
[illegible]	0.098						
1877	0.094						
[illegible]	0.090						
[illegible]	0.094						
[illegible]	0.123						
	80						
	Σ1.000						
	71						
1881		0.104					
[illegible]		0.130					
[illegible]		0.123					
[illegible]		0.094					
[illegible]		0.080					
[illegible]		0.085					
[illegible]		0.092					
[illegible]		0.094					
[illegible]		0.099					
1890		0.099					
		90					
		Σ1.000					
		81					
[illegible]			0.070				
[illegible]			0.075				
[illegible]			0.073				
[illegible]			0.067				
[illegible]			0.067				
[illegible]			0.075				
[illegible]			0.092				
[illegible]			0.123				
[illegible]			0.163				
1900			0.195				
			00				
			Σ1.000				
			91				
[illegible]				0.154			
[illegible]				0.179			
[illegible]				0.218			
[illegible]				0.218			
[illegible]				0.231			
				05			
				Σ1.000			
				01			
[illegible]					0.156		
[illegible]					0.199		
[illegible]					0.184		
[illegible]					0.199		
1910					0.262		
					10		
					Σ1.000		
					06		
[illegible]						0.199	
[illegible]						0.246	
[illegible]						0.246	
[illegible]						0.174	
[illegible]						0.135	
						15	
						Σ1.000	
						11	
[illegible]							0.451
[illegible]							0.549
							17
							Σ1.000
							16

TABLE 14. Estimates of Gross Fixed Capital Formation in Machinery and Equipment Component in Food and Beverages Major Group, 1871-80 Illustrative of General Procedure Followed by the DBS Fixed Capital Stocks Project in Deriving Estimates of Gross Fixed Capital Formation: Machinery and Equipment, Manufacturing, 1871-1917

Year	(1) $K^N_{80}-(1-r)^{10}K^N_{70}$	(2) Inter-polator	(3) Expressing X_1, X_2, in terms of X_1	(4) Coefficients of X_1, expressed in $\log_{10}$	(5) $(1-r)\frac{2n-1}{2}$	(6) (5) expressed in logs	(7) (4) + (6)	(8) Find anti-log of (7)	(9) Find the sum of (8) and $\frac{1}{\Sigma(8)}$	(10) Inserting (9) for X_1 in (3) estimates of gross fixed capital formation
	millions of current dollars									
1870	4.7								4.7/9.9= 0.47	
1871		0.073	$X_1 = 1.000X_1$	0.00000	$(1-.069)^{19/2}$	$\bar{1}.70512$	$\bar{1}.70512$	0.5		0.5
1872		0.098	$X_2 = 1.342X_1$	0.12775	$(1-.069)^{17/2}$	$\bar{1}.73616$	$\bar{1}.86391$	0.7		0.6
1873		0.110	$X_3 = 1.507X_1$	0.17811	$(1-.069)^{15/2}$	$\bar{1}.76720$	$\bar{1}.94531$	0.9		0.7
1874		0.114	$X_4 = 1.562X_1$	0.19368	$(1-.069)^{13/2}$	$\bar{1}.79824$	$\bar{1}.99192$	1.0		0.7
1875		0.106	$X_5 = 1.452X_1$	0.16197	$(1-.069)^{11/2}$	$\bar{1}.82928$	$\bar{1}.99125$	1.0		0.7
1876		0.098	$X_6 = 1.342X_1$	0.12775	$(1-.069)^{9/2}$	$\bar{1}.86032$	$\bar{1}.98807$	1.0		0.6
1877		0.094	$X_7 = 1.288X_1$	0.10992	$(1-.069)^{7/2}$	$\bar{1}.89136$	0.00128	1.0		0.6
1878		0.090	$X_8 = 1.233X_1$	0.09096	$(1-.069)^{5/2}$	$\bar{1}.92240$	0.01336	1.0		0.6
1879		0.094	$X_9 = 1.288X_1$	0.10992	$(1-.069)^{3/2}$	$\bar{1}.95344$	0.06336	1.2		0.6
1880		0.123	$X_{10} = 1.685X_1$	0.22660	$(1-.069)^{1/2}$	$\bar{1}.98448$	0.21108	1.6		0.8

Notes: Reducing balance rate of depreciation = 0.069.

K^N_{80} ≡ net stock of fixed assets end of year 1880.

K^N_{70} ≡ net stock of fixed assets end of year 1870.

TABLE 15. Check on Estimates of Current Dollar Gross Fixed Capital Formation, Construction Component, Food and Beverages Major Group, 1890-1900

End of year	(1) Total fixed "Capital invested" census data	(2) Land	(3) Construction-type assets (1) – (2)
1890	18.7	5.0	13.7
1900	21.6	4.5	17.1

	Construction-type assets	Estimated capital formation	Estimated undepreciated fixed assets remaining
1890	13.7		9.1
1891		0.7	0.5
1892		0.6	0.4
1893		0.6	0.4
1894		0.5	0.4
1895		0.5	0.4
1896		0.6	0.5
1897		0.7	0.6
1898		0.9	0.8
1899		1.1	1.0
1900	17.1	1.4	1.4
			$\sum_{1890}^{1900}$ 15.5

Ratio $\frac{15.5}{17.1} = 0.91$

Two separate deflators were prepared for these components. It should be noted that, in the input price indexes, which give proxies for the desired output price indexes, only the labour (in part) and building materials inputs were priced. It was not possible to construct a proxy for the rate of return to fixed capital used to construct construction-type capital goods for two reasons: (i) the Construction Industry proper is characterized by many unincorporated business enterprises and hence data on sales and profits or net income of unincorporated business enterprises are not reliable; and (ii) some construction-type capital goods are erected on own-account by various industries and an imputed profit rate is seldom charged to such expenditures by firms.

To prepare a deflator for building construction-type capital expenditures, the following procedure was pursued. From the DBS reference paper *Price Index of Non-Residential Building Materials 1935-1952*, broad materials commodity group weights, by different types of structures (churches, factories, garages, hospitals, office buildings, schools, stores, warehouses and other) were obtained. The weights for factories were assumed to be appropriate for the construction of the building construction deflator for Manufacturing industries. The commodity groups and weights are given in Section IV, Table 16.

TABLE 16. Commodity Groups and Weights, Non-residential Building Materials Component: Building Construction – Manufacturing

Commodities	Weights for factories
Aggregate cement and concrete mix	0.119
Blocks, brick and building stone	0.096
Tile	0.033
Lumber and lumber products	0.054
Plumbing, heating and other equipment	0.229
Electrical equipment and materials	0.130
Steel and metal work	0.244
Hardware	0.032
Lath plaster	0.011
Roofing materials	0.029
Paint and glass	0.016
Miscellaneous materials	0.007
Total	**1.000**

Source: DBS Price Index of Non-Residential Building Materials, 1935-1952.

Price indexes for these groups of non-residential building materials are provided in the Reference Paper and were also obtained from later issues of *Prices and Price Indexes*, (September 1959 and March 1962). On the basis of data obtained from the building materials components of the DBS General Wholesale Price Index, these group indexes were run back from 1935 to 1926, using detailed commodity price index data and the above weighting diagram with adjustments for three groups which had to be dropped.

For the period prior to 1926, price index data for building materials can be obtained back to 1890 from the Historical General Wholesale Price Index derived by DBS and the Department of Labour, *Wholesale Prices in Canada 1890-1909*. Price quotations for selected commodities from H. Mitchell, "Statistics of Prices" in K.W. Taylor and H. Mitchell, *Statistical Contributions to Canadian Economic History* (Vol. II) were indexed and simply averaged together to extend the non-residential building materials price index back to 1871.

With respect to the labour component, the index of average hourly earnings in building construction activity in the Construction Industry from various annual issues of DBS *Average Hourly Earnings* for the years 1945 to 1961 and the index of wage rates in the Construction Industry from the Department of Labour, *Wage Rates, Salaries and Hours of Labour 1963* and earlier issues of the same report were weighted equally together. The index of the "price" of labour was run back to 1901 on the basis of considerably reworked and reweighted Department of Labour wage rate data for building trades. From 1901 to 1881, an index of admittedly questionable reliability was constructed on the basis of daily wage rate data for building trades found in the Immigration Agents' statements found in the annual reports of the Departments of the Interior and Agriculture.[21]

On the basis of data obtained from a study of the DBS sample survey of the Construction Industry and DBS Prices Division's working papers lying behind the *Price Index of Non-residential Building Materials 1935-1952*, it was possible to obtain 1957 and 1949 labour-material input weights. No significant difference in weights between the two periods was discernable. For the earlier period it is difficult to obtain reliable information which would suggest that the labour-material weights would be significantly changed. Since the wage rate data only go back to 1882, the combined index is taken from 1882 to 1871 on the basis of the materials price index above. Prior to 1926 the weights were arbitrarily altered in favour of the labour component.

The two components of the cost index of factories and the weights are given in Section IV, Table 17.

The resulting aggregate cost indexes of factories were chained to provide an index on a 1949 = 1.000 time reference base. This was mechanically converted to a 1957 = 1.000 time reference base for the constant 1957 dollar calculations.

[21] These wage data are of admittedly poor quality but the trend shown by them is probably not incorrect. Moreover, the weight of constant dollar gross fixed capital formation in construction prior to 1900 in (say) constant dollars gross stock estimate in 1926 will be very small and it is doubtful if the inadequate wage rate data prior to 1900 adversely affect the trends shown by the stock estimates from 1926 to 1945 presented in the Section VI of this report and in the *Statistical Supplement*. After these estimates had been prepared, a thorough examination of late 19th Century wage rate data emanating from the reports of immigration agents of the Federal Government, the Ontario Bureau of Industries and the Auditor General of Canada was conducted by R.E. Olley. This study examines only such wage rate data for Ontario and the weaknesses in the immigration agents data. (Cf. R.E. Olley, "Construction wage rates in Ontario 1864 to 1903", unpublished M.A. thesis, Queen's University, 1961).

TABLE 17. Cost Index of Factories

	Building materials	Labour	Cost index of factories
Weights	0.606	0.394	
	1957 = 1.000		
1961			
1960	1.009	1.177	1.075
1959	1.020	1.155	1.073
1958	1.014	1.089	1.044
1957	0.999	1.042	1.016
1956	1.000	1.000	1.000
	0.982	0.937	0.964
	1949 = 1.000		
1956			
1955	1.286	1.572	1.399
1954	1.238	1.486	1.336
1953	1.220	1.446	1.309
1952	1.248	1.414	1.313
	1.235	1.310	1.265
1951			
1950	1.186	1.191	1.188
1949	1.050	1.050	1.051
1948	1.000	1.000	1.000
1947	0.959	0.950	0.955
	0.849	0.851	0.850
	1935-39 = 1.000		
1947			
1946	1.379	1.640	1.482
1945	1.231	1.476	1.328
1944	1.166	1.403	1.259
1943	1.160	1.374	1.244
	1.152	1.335	1.224
1942			
1941	1.140	1.204	1.165
1940	1.090	1.129	1.105
1939	1.028	1.021	1.025
1938	1.001	1.031	1.013
	1.022	1.027	1.024
1937			
1936	1.046	1.000	1.028
1935	0.968	0.973	0.970
1934	0.963	0.967	0.965
1933	0.978	0.931	0.959
1932	0.973	0.938	0.959
	0.970	1.039	0.997
1931			
1930	0.998	1.125	1.048
1929	1.070	1.179	1.113
1928	1.116	1.183	1.142
1927	1.067	1.127	1.091
1926	1.074	1.094	1.082
	1.083	1.056	1.072
Weights	0.583	0.417	
	1935-39 = 1.000		
1926			
1925	1.195	1.056	1.079
1924	1.126	1.033	1.087
1923	1.166	1.037	1.112
	1.224	1.019	1.139

TABLE 17. Cost Index of Factories – Concluded

	Building materials	Labour	Cost index of factories
	1935 - 39 = 1.000		
1922	1.189	0.994	1.108
1921	1.344	1.091	1.238
1920	1.576	1.171	1.407
1919	1.284	0.994	1.163
1918	1.105	0.834	0.992
1917	0.958	0.713	0.856
1916	0.762	0.649	0.715
1915	0.663	0.640	0.653
1914	0.689	0.649	0.672
1913	0.734	0.647	0.698
1912	0.711	0.626	0.676
1911	0.713	0.590	0.662
1910	0.679	0.556	0.632
1909	0.694	0.536	0.628
1908	0.711	0.518	0.631
1907	0.658	0.513	0.598
1906	0.635	0.491	0.575
1905	0.605	0.466	0.547
1904	0.610	0.434	0.537
1903	0.593	0.435	0.527
1902	0.550	0.408	0.491
1901	0.532	0.382	0.469
1900	0.550	0.368	0.474
1899	0.490	0.364	0.437
1898	0.463	0.366	0.423
1897	0.453	0.366	0.417
1896	0.488	0.364	0.436
1895	0.490	0.356	0.434
1894	0.512	0.356	0.447
1893	0.513	0.360	0.449
1892	0.520	0.370	0.457
1891	0.513	0.370	0.453
1890	0.538	0.368	0.467
1889	0.561	0.362	0.478
1888	0.565	0.356	0.478
1887	0.530	0.339	0.450
1886	0.508	0.318	0.429
1885	0.518	0.308	0.430
1884	0.542	0.310	0.445
1883	0.585	0.333	0.480
1882	0.618	0.339	0.502
1881	0.606	–	0.492
1880	0.640	–	0.520
1879	0.585	–	0.475
1878	0.580	–	0.471
1877	0.613	–	0.498
1876	0.663	–	0.539
1875	0.711	–	0.578
1874	0.811	–	0.659
1873	0.870	–	0.707
1872	0.870	–	0.707
1871	0.691	–	0.561

Source. See text.

With respect to the development of the deflator for the engineering sub-component of current dollar gross fixed capital formation in construction for all Major Groups in Manufacturing, the following procedure was used.

For the period 1913 to 1961, the price index used was a simple average of the price indexes for the commodity groups shown in Section IV, Table 18.

The commodity group indexes are taken from various historical issues of *Prices and Price Indexes* from the building materials component.

TABLE 18. Materials Component of Deflator for the Engineering Construction Component of Current Dollar Gross Fixed Capital Formation

Lumber and timber
Iron and steel pipe and tubing
Cement
Building stone
Copper wire
Structural steel shapes
Steel bars[1]

[1] For this commodity group, the price index for reinforcing bars, structural grade was used for 1926 to 1952 and that for mild merchant steel bars was used for the period 1913-26.

For the years 1871 to 1913, the same index as was constructed for the building construction deflator was employed.

For the labour component of the index, for the period 1945 to 1961, a simple average of indexes for average hourly earnings in engineering construction and wage rates in the Construction Industry was constructed. The index of average hourly earnings was obtained from various issues of DBS *Average Hourly Earnings* while the wage rate indexes were again obtained from the same sources as for the building construction components. For years earlier than 1946 back to 1882 the wage rate index used was the one which was prepared for the building construction component.

The labour-material weights were obtained, for 1957, from an examination of the schedules emanating from the DBS sample survey of the Construction Industry while for the earlier period the weights were obtained from the Deflation Sector of the DBS National Accounts and Balance of Payments Division.

The components of the indexes and their weights are provided in Section IV, Table 19.

Again, the resulting aggregate input price indexes were chained to provide an index of a 1949 = 1.000 time reference base. This was mechanically converted to a 1957 = 1.000 time reference base for the constant 1957 dollar calculations.

TABLE 19. Price Index for Engineering Construction Gross Fixed Capital Formation

	Materials	Labour	Index
Weights	0.6	0.4	
	1957 = 1.000		
1961	1.008	1.167	1.072
1960	1.030	1.128	1.069
1959	1.030	1.059	1.042
1958	0.993	1.023	1.005
1957	1.000	1.000	1.000
1956	1.026	0.911	0.980
Weights	0.7	0.3	
	1949 = 1.000		
1956	1.363	1.598	1.433
1955	1.297	1.492	1.356
1954	1.244	1.445	1.304
1953	1.270	1.413	1.313
1952	1.263	1.310	1.277
1951	1.228	1.190	1.217
1950	1.071	1.052	1.065
1949	1.000	1.000	1.000
1948	0.962	0.949	0.958
1947	0.843	0.852	0.846
	1935-39 = 1.000		
1947	1.629	1.642	1.633
1946	1.357	1.474	1.392

TABLE 19. Price Index for Engineering Construction Gross Fixed Capital Formation – Continued

	Materials	Labour	Index
	1935-39 = 1.000		
1945	1.273	1.403	1.312
1944	1.272	1.374	1.303
1943	1.253	1.335	1.278
1942	1.227	1.204	1.220
1941	1.153	1.129	1.146
1940	1.057	1.021	1.046
1939	1.017	1.031	1.021
1938	1.016	1.027	1.019
1937	1.067	1.000	1.047
1936	0.959	0.973	0.963
1935	0.923	0.967	0.936
1934	0.927	0.931	0.928
1933	0.911	0.938	0.919
1932	0.900	1.039	0.942
1931	0.925	1.125	0.985
1930	0.996	1.179	1.051
1929	1.073	1.183	1.106
1928	1.035	1.127	1.063
1927	1.049	1.095	1.063
1926	1.129	1.056	1.107
1925	1.226	1.033	1.168
1924	1.306	1.037	1.225
1923	1.326	1.019	1.234
1922	1.272	0.994	1.189
1921	1.522	1.091	1.393
1920	1.797	1.172	1.610
1919	1.565	0.994	1.394
1918	1.666	0.834	1.416
1917	1.590	0.713	1.327
1916	1.263	0.649	1.079
1915	0.955	0.640	0.860
1914	0.852	0.649	0.791
1913	0.928	0.647	0.844
1912	0.838	0.626	0.774
1911	0.840	0.590	0.765
1910	0.800	0.567	0.730
1909	0.818	0.536	0.733
1908	0.838	0.518	0.742
1907	0.775	0.513	0.696
1906	0.748	0.491	0.671
1905	0.713	0.466	0.639
1904	0.719	0.434	0.634
1903	0.699	0.436	0.620
1902	0.648	0.409	0.576
1901	0.627	0.382	0.554
1900	0.648	0.368	0.564
1899	0.577	0.364	0.513
1898	0.546	0.366	0.492
1897	0.534	0.366	0.484
1896	0.575	0.364	0.512
1895	0.577	0.356	0.511
1894	0.603	0.356	0.529
1893	0.605	0.360	0.532
1892	0.613	0.370	0.540
1891	0.605	0.370	0.534
1890	0.634	0.368	0.554
1889	0.661	0.362	0.571
1888	0.666	0.356	0.573
1887	0.625	0.339	0.539
1886	0.599	0.318	0.515

TABLE 19. Price Index for Engineering Construction Gross Fixed Capital Formation – Concluded

	Materials	Labour	Index
	1935-39 = 1.000		
1885	0.610	0.308	0.519
1884	0.639	0.310	0.540
1883	0.689	0.333	0.582
1882	0.728	0.339	0.611
1881	0.714	–	0.599
1880	0.754	–	0.632
1879	0.689	–	0.578
1878	0.684	–	0.574
1877	0.722	–	0.606
1876	0.781	–	0.655
1875	0.838	–	0.703
1874	0.956	–	0.802
1873	1.025	–	0.860
1872	1.025	–	0.860
1871	0.814	–	0.683

Source: See text.

(ii) Machinery and equipment price indexes

From 1955 to 1961, the indexes used were obtained from the DBS Prices Division. These indexes, which have not yet been published, relate to the prices of machinery and equipment, both domestically-produced and imported, purchased on capital account by selected Canadian industries and by Municipal Government Departments for certain specific purposes (e.g., firefighting equipment). Many problems are associated with these indexes but they represent such an improvement in knowledge about the price change experienced by capital goods that wherever possible they have been incorporated into the deflation programme of both the National Accounts (in the estimation of constant dollar Gross National Expenditure) and the DBS Fixed Capital Stocks Project. Detailed elaboration of the nature and limitations of these price indexes must await their publication by the Prices Division.

For the 1948 S.I.C. Manufacturing Division, such price indexes for the period 1955 to 1961 are available at the following level of industrial detail.

Price Indexes of Machinery and Equipment by Purchasing Industry, Manufacturing Division, 1948 Standard Industrial Classification

Two-digit or Major Group level	Three-digit level
Food and Beverages	
	Meat products
	Dairy products
	Canning and processing
	Grain mill products
	Beverages
Leather Products	
Textiles Products, except Clothing	
	Cotton and woollen goods
	Silk and artificial silk
	Other primary textiles
Clothing	
Wood Products	
	Saw and planing mills
	Furniture
	Miscellaneous wood products
Paper Products	
	Pulp and paper
Printing, Publishing and Allied Industries	
Iron and Steel Products	
Chemical Products	

For Major Groups where three-digit industry level price indexes exist, deflation was carried out at the three-digit level. Then, the resulting constant 1955 dollar estimates divided into their current dollar components and Paasche-type indexes with a 1955 = 1.000 time base were obtained for the Major Groups. For two Major Groups, deflation by Laspeyres and Paasche indexes yielded no significant differences in constant 1949 or 1957 dollar series of gross fixed capital formation.

For the above Major Groups (excluding Chemical Products) the Prices Division has a history of revelant Canadian and U.S. commodity price quotations back to 1949. These quotations, when put in index number form,[22] permitted the extension back to 1949 of the Prices Division's indexes of machinery and equipment by purchasing industry for these Major Groups.

For the combined Major Groups, Tobacco Products, Rubber Products and Leather Products, it was decided to use as a deflator for the period 1955 to 1961 the total Manufacturing Division price index of machinery and equipment obtained from the Prices Division. Recourse to this aggregate index was also had for the combined Non-metallic Mineral Products and Products of Petroleum and Coal Major Groups, for the combined Non-ferrous Metal Products and Electrical Apparatus and Supplies Major Groups and the Miscellaneous Manufacturing Industries Major Group. For the Transportation Equipment Major Group, the index for the Iron and Steel Products Major Group was used.

For the period prior to 1949 (and for some Major Groups prior to 1955), great difficulties confronted the satisfactory construction of the required price indexes. In general, the procedure followed was to construct price indexes based on U.S. data for the imported component of capital expenditures on machinery and equipment and to construct cost indexes based on Canadian Census of Manufacturers, Department of Labour wage rate and DBS Prices Division wholesale price index data for the domestically-produced component.

The U.S. component of the index was constructed from (i) the price index of industrial machinery and equipment in W.H. Shaw, *Value of Commodity Output Since 1869*, Table IV, pp. 294-295 (1896-1929) and (ii) the price index of general industrial machinery in R.C. Wasson, "Investment in production equipment 1929-1952", U.S.A. Department of Commerce, *Survey of Current Business* xxxii, 11, Nov. 1953 (1929-1946) and in "Implicit price deflators for producers' durable equipment 1946-1954" *U.S. Income and Output* Table VII-15, p. 229 and data supplied by the Office of Business Economics of the United States Department of Commerce (1946-1955). The resulting index was then shifted to a Canadian dollar purchasers' price conceptual basis:

(i) for the period 1896-1926, adjustments were made for changes in the Canadian-U.S. exchange rate, based on data supplied by the Bank of Canada, duty rates from the *Canadian Almanac* and sales tax data from K.A.H. Buckley, *Capital Formation in Canada 1896-1930*, p. 100. No adjustments could be made for the changing gross margins of dealers through whom imported machinery and equipment may flow. Hence, in this sense it is assumed that the incidence of all changes in exchange rates, duty rates, etc., falls entirely on the final purchaser;

(ii) for the period 1926-55, adjustments for exchange rates, import duties, sales taxes and war excise taxes, were made based on data for such factors obtained from the Deflation Sector of the DBS National Accounts and Balance of Payments Division.

This component of the machinery and equipment deflator is shown in Section IV, Table 20.

[22] Indexes were prepared separately from the Canadian and U.S. quotations. The indexes were then weighted together on the basis of data obtained from a producers' durables commodity flow study performed for 1955 by the DBS Fixed Capital Stocks Project. The U.S. component of the index was adjusted for changes in import duties and in the Canadian-U.S. exchange rate.

TABLE 20. Adjusted Price Index of Import Component, Machinery and Equipment, Manufacturing, 1896-1955

Year	1949 = 1.000	Year	1949 = 1.000	Year	1949 = 1.000
1896	0.192	1916	0.411	1936	0.609
1897	0.264	1917	0.504	1937	0.661
1898	0.285	1918	0.635	1938	0.664
1899	0.306	1919	0.674	1939	0.668
1900	0.301	1920	0.780	1940	0.761
1901	0.298	1921	0.746	1941	0.840
1902	0.292	1922	0.603	1942	0.873
1903	0.274	1923	0.644	1943	0.867
1904	0.295	1924	0.642	1944	0.871
1905	0.293	1925	0.632	1945	0.813
1906	0.290	1926	0.620	1946	0.763
1907	0.302	1927	0.614	1947	0.835
1908	0.279	1928	0.614	1948	0.911
1909	0.313	1929	0.615	1949	1.000
1910	0.313	1930	0.575	1950	1.110
1911	0.346	1931	0.585	1951	1.220
1912	0.324	1932	0.629	1952	1.129
1913	0.311	1933	0.615	1953	1.168
1914	0.320	1934	0.598	1954	1.189
1915	0.376	1935	0.608	1955	1.260

Source: See text.

The cost index for the domestically-produced component of machinery and equipment used in Canadian Manufacturing required an elaborate assembly of relevant data. In terms of producers prices, it is necessary to assemble price data for all intermediate and primary inputs used to produce the relevant machinery and equipment, together with the requisite weighting diagrams.

A proxy to movements in the producer's price of gross output derived by means of combining intermediate and primary input price indexes will be biassed upward in relation to the true output price index because of the explicit failure to account for the changing productivity or economic efficiency of the inputs.[23] However, in the case where no output price indexes are available, the combined input price indexes must be accepted as second best. This is one of the reasons why the Prices Division's price indexes of machinery and equipment by purchasing industry have been so readily adopted.

By definition, the gross output of a manufacturing industry is equal to (a) the value of shipments plus (b) the value of the physical change in inventories of finished goods and goods-in-process. The gross output is identically equal to (i) the value of materials used[24] and other intermediate inputs such as advertising expenses, power charges, etc., (ii) the wages and salaries bill, (iii) capital consumption allowances on a current replacement cost basis and (iv) the net return to capital after inventory and depreciation valuation adjustments.

In the cost indexes about to be described, it was found possible only to obtain wage rate indexes, (that is, only part of the wages and salaries bill was covered) and price indexes for selected material inputs. In addition, some attempt was made to incorporate, rather crudely, a proxy to the index of the rates of return to fixed capital.

It was decided that a cost index of the products of the DBS 1948 S.I.C. 324 Industrial Machinery industry would be a satisfactory representation of the changes over time in the prices paid by Canadian Manufacturers for domestically-produced machinery and equipment. While recognizing that such an assumption may be unfounded, because of the lack of knowledge about the commodity content of machinery and equipment purchases by Canadian Manufacturers no satisfactory way could be developed to weight together other cost indexes of the output of industries which, under the 1948 S.I.C., also produce durable investment goods. These were, however, developed by the DBS Fixed Capital Stocks Project for use in deflating the machinery and equipment expenditures of Non-manufacturing Industries.[25]

The weighting diagrams for the cost indexes were prepared from the Census Dominion Total Schedules for the 1948 S.I.C. 324 Industrial Machinery industries for the year 1949 and the average of the years 1935-39. Given the price indexes lying behind the DBS General Wholesale Price Index, an attempt was made to match the commodity coverage of such indexes with the commodity coverage in the values of materials used as reported in the Census Dominion Total Schedules. The price movements of materials for which no price data were available were assumed to be satisfactorily represented by the price movements shown by those materials for which price data were available.

The DBS General Wholesale Price indexes used and their weight in the materials used portion of the input price indexes for S.I.C. 324 Industrial Machinery are given below in Section IV, Table 21.

[23] See D.C. Dacy, *op. cit.* and the comments in footnote 20. See also B.J. Emery and T.K. Rymes, *op. cit.*

[24] A correction shoud be made to the value of materials used to account for the differing inventory accounting and cost procedures used by respondents in valuing withdrawals from material stocks. Should the value of materials purchased be used as the relevant intermediate input concept, then gross output has to be redefined to include the value of the physical change in material inventories.

[25] On pages 91-95 inclusive of the DBS *1948 S.I.C. Manual*, the products of S.I.C. Number 324 Industrial Machinery industries, are listed. The extensive commodity coverage would offer some support for the assumption that a price index of the output of this industry would be representative of the price movements shown by domestically-produced and equipment purchased by Canadian Manufacturing industries.

TABLE 21. Input Price Index, 324 Industrial Machinery Industry, Materials Used Component: Sub-weights

General wholesale price index category	1935-39	1949
Castings and forgings	0.185	0.107
Pig iron	0.023	0.025
Rolling mill products	0.580	0.681
Scrap iron and steel	0.018	0.024
Tinplate and galvanized sheets	0.032	0.034
Aluminium	0.016	0.018
Copper and its products	0.044	0.057
Paint materials	0.016	---
Lumber and timber	0.040	0.025
Iron and steel pipe and tubing	0.046	0.029
Totals	**1.000**	**1.000**

Price indexes for such materials (except one group) are available from 1913 to 1955. The index for tinplate and galvanized sheets was linked in 1934 to that for rolling mill products.

These indexes were extended back to 1896 on the basis of price quotations available in R.H. Coats, *An Inquiry into the Cost of Living*, Vol. II.

From various issues of Department of Labour *Wage Rates and Hours of Labour in Canada*, wage rate indexes for the combined DBS 1948 S.I.C. 319 Household, Office and Store Machinery and DBS 1948 S.I.C. 324 Industrial Machinery industries were taken for the years 1949 to 1955 inclusive. From similar Department of Labour reports (No. 34 for 1951 and No. 35 from 1952) an index of wage rates for the Machinery Industry (old Department of Labour Standard Industrial Classification) was obtained for the years 1939 to 1949.

For the period 1936 to 1901, wage rate indexes for selected occupations and weights obtained from the 1941 and 1931 Decennial Censuses were used to extrapolate back the above wage rate index. The occupations covered and weights are given in Section IV, Table 22.

TABLE 22. Selected Metal Trades Occupations

	Weights	
	1931	1941
Blacksmiths	0.036	0.030
Boilermakers	0.115	0.109
Machinists	0.720	0.669
Moulders	0.046	0.055
Sheet Metal Workers	---	0.027
Carpenters	0.024	0.030
Electricians	0.021	0.033
Plumbers	0.023	0.018
Painters	0.015	0.029
Totals	**1.000**	**1.000**

Note: The wage rate indexes were from selected issues of Department of Labour *Wage Rates and Hours of Labour in Canada*. The 1941 weights were obtained from the occupational classification of workers in the Boilers, Engines and Machinery industry *(Decennial Census of Canada* 1941, Vol. VII, Table 21) and the 1931 weights for the Boilers, Engines and Machinery industry *(Decennial Census of Canada* 1931, Vol. VII, Table 58).

The wage rate index was extended back to 1896 on the basis of wage rate data for selected trades reported by Immigration agents in various Annual Reports of the Department of Agriculture. These data are known to be weak[26] but, after careful examination, the trend depicted by such data from 1901 to 1896 was considered not unreasonable. These various wage rate indexes were linked at 1949, 1939 and 1901.

Wage rate indexes do not show changes in the price of the labour input as precisely as would have been liked. In particular, when overtime payments, etc. raise the price of labour in times of rapidly expanding demand, the wage rate indexes do not depict these extraordinary rises in the price of labour. To capture some of this phenomenon, for the period 1945 to 1955, the wage rate index (on a time reference base 1949 = 1.000) was combined with equal weights with the DBS annual index of average hourly earnings for the Household, Office and Store Machinery and Industrial Machinery industries.

From the Department of National Revenue's *Taxation Statistics* and F.W. Emmerson, "Selected Corporation Financial Statistics 1926-1946", an index of the rate of return to capital was derived. The proxy index, which certainly cannot be regarded as very reliable, was based on the indexed ratio of net profits to sales for the Iron and Steel Products Major Group from 1926 to 1944, the ratio (adjusted to calendar year) for the old Department of Labour S.I.C. Industrial, Construction and Mining Machinery industry for 1944 to 1952, and the ratio (adjusted to calendar year) for the *Taxation Statistics* 1948 DBS S.I.C. 324 Machinery, n.e.c. industry.

The resulting material inputs price indexes, wage rate indexes and profit rate indexes are shown in Section IV, Table 23.

[26] See footnote 21.

TABLE 23. Material Price, Money Wage Rate and Profit Rate Indexes, 1948 S.I.C. 324 Industrial Machinery Industry

	Materials used	Wage labour	Net rate of return to capital
Weights	0.540	0.360	0.100
		1949 = 1.000	
1955	1.300	1.402	0.780
1954	1.259	1.448	0.757
1953	1.285	1.390	0.872
1952	1.261	1.308	1.093
1951	1.202	1.214	1.198
1950	1.062	1.060	1.140
1949	1.000	1.000	1.000
1948	0.939	0.929	1.163
1947	0.826	0.836	1.151
Weights	0.584	0.316	0.100
		1935-39 = 1.000	
1947	1.423	1.825	0.905
1946	1.287	1.590	0.769
1945	1.193	1.524	0.824
1944	1.193	1.531	0.988
1943	1.172	1.467	1.250
1942	1.157	1.343	1.500
1941	1.127	1.203	1.488
1940	1.087	1.085	1.262
1939	1.054	1.037	1.321
1938	1.060	1.024	1.179
1937	1.056	1.015	1.226
1936	0.926	0.967	0.810
1935	0.910	0.954	0.488
1934	0.910	0.919	0.119
1933	0.903	0.921	– 1.155
1932	0.905	0.974	– 1.131
1931	0.916	1.024	– 0.298
1930	0.970	1.059	0.726
1929	1.014	1.059	1.286
1928	1.001	1.015	1.393
1927	1.013	1.002	1.179
1926	1.035	1.002	1.143
1925	1.071	0.996	
1924	1.120	1.003	
1923	1.128	1.007	
1922	1.034	0.991	
1921	1.260	1.079	
1920	1.556	1.133	
1919	1.367	0.985	
1918	1.495	0.849	
1917	1.427	0.727	
1916	1.020	0.611	
1915	0.751	0.576	
1914	0.699	0.557	
1913	0.706	0.559	
1912	0.666	0.531	
1911	0.665	0.520	
1910	0.695	0.511	
1909	0.714	0.489	
1908	0.729	0.483	
1907	0.778	0.474	
1906	0.712	0.454	
1905	0.669	0.439	
1904	0.652	0.426	
1903	0.692	0.419	
1902	0.683	0.397	
1901	0.685	0.380	
1900	0.729	0.369	
1899	0.683	0.369	
1898	0.633	0.369	
1897	0.602	0.368	
1896	0.643	0.353	

Source: See text. The index of the net rate of return to capital could not be carried back beyond 1926.

As mentioned, the weights for these components were obtained from the Census Dominion Total of Industry Schedules: for 1949, the DBS S.I.C. 324 Industrial Machinery industry and for 1935-39 the pre-DBS 1948 S.I.C. Industrial, Office and Household Machinery industries. The weights are also shown in Section IV, Table 23.

The final step was to incorporate into the domestic producer's price index of industrial machinery the effects of sales and special excise taxes. These adjustment factors were obtained from the Deflation Sector of the National Accounts and Balance of Payments Division, and, as for the imported component of the index for the years prior to 1926, from K. Buckley, *Capital Formation in Canada 1896-1930*. Once again, no allowance is made for the changing margins of dealers in machinery and equipment, transport costs, etc.—though, because some allowance for profit margins of the domestic producers is made from 1926 to 1955, the implied incidence in this sense of the sales and excise taxes is not unambiguously directed to final purchasers.

The two price indexes, for imported and domestically-produced machinery and equipment purchased by Canadian Manufacturing industry for the period 1896 to 1955, were weighted together on the basis of the previously mentioned 1955 commodity flow study performed by the DBS Fixed Capital Stocks Project. Examination of the movements of the two components suggested that alternative weights would not alter the long-term trend of the aggregate Laspeyres index significantly.

Two points should be made about the two indexes:

(i) since the domestically-produced machinery and equipment index is not an output but an input price index, while the U.S. index is primarily an output price index, one would expect that the domestic index would be biassed upward, in the long run, in relation to its U.S. counterpart. The different commodity composition of the two indexes may account for the apparent lack of the bias. It is, however, probably the case that money wage rate indexes do not satisfactorily depict the changing price of labour—owing to the fact that money wage rate indexes do not take into account longer vacations, shorter hours, fringe benefits, etc.,

(ii) the behaviour of the adjusted U.S. index in the early 1930's would appear questionable. The basic component (Wasson's general industrial machinery price index) shows much more of a cyclical downturn than does the Canadian component. However, in the early thirties the Canadian dollar price of U.S. currency rose and sales and excise tax rates were increased. These factors account for the lack of cyclical sensitivity shown by the adjusted U.S. index during the early 1930's as compared to the Canadian counterpart.

The aggregate index was linked in 1949 to those price indexes of machinery and equipment by purchasing Major Groups in Manufacturing produced by the DBS Prices Division and run back to 1949 by the DBS Fixed Capital Stocks Project on the basis of historical commodity price quotations for the period 1949 to 1955. The link was made in 1955 for those Major Groups in Manufacturing where price indexes of purchased machinery and equipment could not be carried back from 1955 to 1949.

Once again, the resulting indexes were chained and indexed on a 1949 = 1.000 time reference base and mechanically converted to a 1957 = 1.000 time reference base for the constant 1957 dollar calculations.

(iii) Price index for capital items charged to operating expenses

As previously indicated, knowledge of the commodity content of capital items charged to operating expenses is limited. For this component of current dollar gross fixed capital formation, it was decided to use as a deflator the price index of industrial

TABLE 24. Price Index: Capital Items Charged to Operating Expenses, Manufacturing Industries

1949 = 1.000

1961	1.607	1940	0.716
1960	1.552	1939	0.672
1959	1.505	1938	0.672
1958	1.484	1937	0.671
1957	1.436	1936	0.596
1956	1.369	1935	0.576
1955	1.294	1934	0.553
1954	1.242	1933	0.511
1953	1.236	1932	0 521
1952	1.208	1931	0.530
1951	1.212	1930	0.570
1950	1.085	1929	0.618
1949	1.000	1928	0.618
1948	0.939	1927	0.614
1947	0.851	1926	0.624
1946	0.765	1925	0.636
1945	0.788	1924	0.654
1944	0.825	1923	0.660
1943	0.822	1922	0.616
1942	0.815	1921	0.732
1941	0.779	1920	0.811

Source: See text.

machinery and equipment derived from United States and Canadian data and described earlier for the period 1896 to 1955. From 1955 to 1960, the Laspeyres price index for machinery and equipment for Total Manufacturing, developed by the DBS Prices Division, was used. It is recognized that this deflator is not satisfactory and, given the significance of this component of gross fixed capital formation, it is necessary that improved information about its commodity content should become available in the future.

Once again, this index was mechanically converted to a 1957 = 1.000 time reference base for the production of constant 1957 dollar estimates.

(c) Estimate of Average Economic Lives

The weakest link in the set of capital stock estimates presented in this report are the estimates of the "average economic lives" of the various types of capital goods. Satisfactory data, which would reveal how long various types of capital goods have remained in production in substantially unaltered form, do not exist in Canada. The "life" data used in this report must be regarded as very imperfect.

Suggested rates, at which fixed assets may be written off, are part of the regulations accompanying the Income Tax Act. It is, of course, well known that such rates, when translated into "life" data, do not necessarily represent the actual economic or productive life of capital goods. Allowable depreciation rates under income tax legislation are part of the fiscal policy of governments. Rates in excess of "true" depreciation of fixed assets are thought to provide, by reducing the tax liability of growing firms, increased incentive to capital formation and to stimulate higher levels of economic activity and accelerated economic growth. Moreover, in Canada, such rates are for classes of fixed assets which are far from homogeneous.[27] The recapture provisions of the Income Tax Act were examined and officials of the Department of National Revenue were consulted to see if the carrying out of such provisions was generating useful data on the actual "life" of fixed assets by industry. The results of this investigation[28] revealed that the kind of data needed for this report were not available.

A *Study of Depreciation of Machinery and Equipment Containing Estimates of Value of Domestic Disappearance and Average Life Expectancy* prepared by the Department of Trade and Commerce in 1949 gives ranges of lives and median lives for a large number of durable investment goods in Canada. The DBS Fixed Capital Stocks Project made use of this information for a number of industries outside of the Manufacturing Division. Where the commodities specified could be assigned to the appropriate Major Groups in Manufacturing, the ranges and medians were used to check the estimates actually used in this report.

In the United States and Canada, for data on the "average economic lives" of capital goods, heavy reliance has been placed in the past upon the United States Treasury Department's *Bulletin "F" Tables of Useful Lives of Depreciable Property*. This publication gives average useful lives of a large number of durable investment goods classified roughly by industry or activity in which such capital goods would be used. The 1942 revision of Bulletin "F" was felt to contain many estimated lives which were no longer representative of the "true lives" of capital goods.[29] The United States Treasury Department amended and simplified these suggested lives in its publication No. 456 U.S. Treasury Department Internal Revenue Service *Depreciation: Guidelines and Rules*. The new guidelines suggested useful lives for machinery and equipment which would "... average 30 to 40 per cent shorter than those previously suggested for use by taxpayers".[30] It is, however, not clear whether the new guidelines represent "true lives" or those which will permit rapid equipment replacement to conform to fiscal policy objectives. While business practice with respect to asset lives would indicate that useful lives were shorter than those suggested in Bulletin "F",[31] the Treasury survey of business practice reveals that when the new guidelines were first released, useful lives were actually greater than those outlined in the guidelines. It is not clear that the present practice useful lives referred to actual useful lives or the lives used by U.S. income taxpayers and approved by the U.S. Treasury Department.

For this report, an attempt was made to obtain lives which would be more closely related to the actual economic lives of the capital goods used in Manufacturing. In the Section on sources and methods with respect to current dollar gross fixed capital formation, it was indicated that for the period 1926 to 1943 the following information existed for construction - and machinery and equipment - type capital goods by Major Groups in Manufacturing: current dollar gross fixed capital formation and the value of capital invested. With these data and certain assumptions, spelt out in what follows, it was possible to derive crude estimates of the lives needed for this report.

Assume that the data in current dollar gross fixed capital formation (obtained from *PPI 1926-1951)* and the value of capital invested (obtained from the DBS Census of Manufacturers) related to the same capital goods and same respondents for each Major Group. Assume also that the value of fixed capital goods referred to the net book value of fixed assets and that no revaluations occurred over the period under examination. Then, it follows that

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[27] See Department of National Revenue, *The Canadian Income Tax Act, Orders and Regulations*, Schedule B.

[28] This study was conducted by Miss Rosetta Campbell during the summer of 1961.

[29] See United States Treasury Department, *Bulletin "F" Tables of Useful Lives of Depreciable Property.*

[30] See U.S. Treasury Department, *Depreciation: Guidelines and Rules* (Washington: U.S. Government Printing Office, July 1962), p. 1.

[31] See U.S. Treasury Department News Release, July 11, 1962, Table II. For a clear statement of the effects which the new guidelines were hoped to have on the level of economic activity in the United States, see footnote to Table IV of this News Release.

original cost depreciation in any year would equal that year's current dollar gross fixed capital formation less the book value of fixed assets at the end of that year plus the book value of fixed assets at the beginning of that year (i.e., end of previous year). That is, rearranging the previous identity,

$$D_t \equiv GFCF_t - K_t^N + K_{t-1}^N.$$

The estimates of depreciation so obtained when expressed as a per cent of the book value of fixed assets at the beginning of the year yield an approximation to the "reducing balance" rate of depreciation. It can be shown that, as a rough approximation, the "reducing balance" rate of depreciation is twice the "straight-line" rate of depreciation and from the latter the "average economic life" of the assets under consideration can be estimated.[32]

[32] Let the original cost of a capital good be I. Let its scrap value be S. Assume it remains in productive service for L years.

Then,

$$I\,(1-r_1)^L = S$$

Solving for r_1 yields the "reducing balance" rate of depreciation.

That is,

$$r_1 = 1 - \text{antilog}\left[\frac{\log \frac{S}{I}}{L}\right].$$

Let

$$\frac{\frac{I-S}{L}}{I} = r_2, \text{ the "straight-line" depreciation rate.}$$

Now, consider the ratio

$$\frac{r_1}{r_2} = \frac{1 - \text{antilog}\left[\frac{\log S/I}{L}\right]}{\frac{\frac{I-S}{L}}{I}}.$$

If the original cost of the capital good is set at \$1 and various values of L, and the ratio of S to I, are inserted, an array of values of the ratio r_1/r_2 can be calculated as follows:

Values of $\frac{r_{1*}}{r_2}$

L	$\frac{S}{I}$ = 0.05	0.10	0.15	0.20
5	2.4	2.0	1.9	1.7
10	2.7	2.3	2.2	1.9
20	2.9	2.4	2.1	1.9
30	3.0	2.5	2.2	1.9
40	3.1	2.4	2.2	2.0
50	3.1	2.5	2.2	2.0
60	3.1	2.5	2.1	1.9

* Calculated using four place $\log_{10}$ tables.

In this study, the relationship between the "reducing balance" rate and "straight-line" rate was assumed to be 2 to 1 rather than 2+ to 1 since it was decided to impart a downward bias into the "life" estimates being found.[33]

For the construction and machinery and equipment components for each of the thirteen combined Manufacturing Major Groups, "reducing balance" rates were calculated in this way for each year from 1926 to 1943. A simple average of such rates was then struck, the mean rate divided by two and the resulting approximations to the "straight-line" rate divided into 1 to yield the required "average economic life".

Given that a downward bias was sought to be imparted to the lives so estimated, wherever such calculations yielded negative "reducing balance" rates, such observations were not included when the mean rate was struck.

Obviously, the resulting estimates of the required "average economic lives" are crude. First, the gross fixed capital formation data and value of fixed capital invested data do not refer to the same entities in each Major Group-one series based on the DNR Corporation tax returns sample and the other based on the Census of Manufacturers. Second, the value of fixed capital invested data is not very reliable. If there was over the period, upward revaluation of the book value of assets then the resulting life estimates are biassed upwards. Periodic downward revaluations biasses the life estimates downward. Since the period encompasses the 1930's as well as the late 1920's and early 1940's it would be difficult to argue any consistent upward bias from this source. The universe in the Census of Manufacturers was, of course, changing over the period. If there was in the annual censuses a persistent bias in coverage in the way of improvement, then the value of capital invested series is biassed upward and so are the "life" estimates. It is difficult to know what weight such a possibility, if it exists, would have in the "life" estimates. If there was, over the period, a shift in the conceptual nature of the value of capital invested data from gross to net book values owing to the advent of the Income Tax Act in 1917, then the series of the value of capital invested (accepting it as a net book value series) is biassed downward or upwards during periods of rapid rates of increase or rates of decrease of capital formation respectively. Again, in this regard it is difficult to express the bias quantitatively.

This procedure of estimating the lives of capital goods in Manufacturing yielded the results given in Section IV, Table 25.

[33] If a ratio of 2+ to 1 had been chosen, thus, given a "reducing balance" rate, the "straight-line" rate would be smaller and the "average economic life" longer than if a ratio of 2 to 1 had been chosen.

TABLE 25. First Set of Estimated Average Economic Lives of Fixed Capital Goods, Manufacturing Division

	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses
1. Food and Beverages	50	55	29	5
2. Tobacco, Rubber and Leather Products	50	55	15	5
3. Textile Products (excluding Clothing)	45	50	26	5
4. Clothing	30	--	21	5
5. Wood Products	30	35	26	5
6. Paper Products	50	55	22	5
7. Printing, Publishing and Allied Industries	50	55	30	5
8. Iron and Steel Products	45	50	21	5
9. Transportation Equipment	40	45	30	5
10. Non-ferrous Metal Products and Electrical Apparatus and Supplies	40	45	22	5
11. Non-metallic Mineral Products and Products of Petroleum and Coal	35	40	26	5
12. Chemical Products	50	55	22	5
13. Miscellaneous Manufacturing Industries	30	35	13	5

Note: The value of engineering construction in the Clothing Major Group during the period 1954 to 1960 was found to be insignificant. All construction expenditures in this Major Group were taken as building construction-type expenditures.

It was felt that engineering construction-type capital goods would have longer lives than building construction-type capital goods. The "life" of engineering construction-type capital goods was arbitrarily set at five years more in Set I of "life" estimates. With respect to capital items charged to operating expenses, no information is available and a "life" of 5 years was arbitrarily chosen for Set I.

The "average economic lives", as set out in Section IV, Table 25, must be regarded with skepticism. They represent an attempt to generate such data from independently derived source material but, because of their weakness, it was decided to produce capital stock and flow estimates based on a range of lives. Those ranges are given in Section IV, Table 26. It is hoped that by preparing the capital stock and flow estimates on the basis of a range of lives that users of the data will be able to appreciate fully what biasses in levels and, more importantly, what differences in trends shown by the estimates result from changed assumptions with respect to "average economic lives" of fixed capital goods when the estimates are prepared using the "perpetual inventory" method.

Set II of "life" estimates utilizes the same data for machinery and equipment and capital items charged to operating expenses as Set I, but the building and engineering construction-type lives were set uniformly at 50 and 55 years respectively for all Major Groups.

Set III consists of the lives of Set I all raised by 20 per cent while Set IV consists of such lives reduced by 20 per cent. In Set V, the lives of machinery and equipment are reduced by a further 20 per cent since the reduced lives would appear to be more comparable to those used by U.S. researchers.

The estimates of gross fixed capital formation and accompanying price indexes for each component of capital formation and for each Major Group are reproduced in Section IV, Tables 27 and 28 so that, together with the "life" data provided in Section IV, Tables 25 and 26, any individual researcher can reconstruct, with variations he may deem appropriate, the capital stock and flow estimates presented in this report and the *Statistical Supplement*.

TABLE 26. Additional Sets of Estimates of Average Economic Lives of Fixed Capital Goods, Manufacturing Division

	Set II				Set III			
	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses
1. Food and Beverages	50	55	29	5	60	66	35	7
2. Tobacco, Rubber and Leather Products	50	55	15	5	60	66	18	7
3. Textile Products (excluding Clothing)	50	55	26	5	54	60	31	7
4. Clothing	50	--	21	5	36	--	25	7
5. Wood Products	50	55	26	5	36	42	31	7
6. Paper Products	50	55	22	5	60	66	26	7
7. Printing, Publishing and Allied Industries	50	55	30	5	60	66	36	7
8. Iron and Steel Products	50	55	21	5	54	60	25	7
9. Transportation Equipment	50	55	30	5	48	54	36	7
10. Non-ferrous Metal Products and Electrical Apparatus and Supplies	50	55	22	5	48	54	26	7
11. Non-metallic Mineral Products and Products of Petroleum and Coal	50	55	26	5	42	48	31	7
12. Chemical Products	50	55	22	5	60	66	26	7
13. Miscellaneous Manufacturing Industries	50	55	13	5	36	42	16	7

	Set IV				Set V			
	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses
1. Food and Beverages	40	44	23	3	40	44	17	3
2. Tobacco, Rubber and Leather Products	40	44	12	3	40	44	9	3
3. Textile Products (excluding Clothing)	36	40	21	3	36	40	16	3
4. Clothing	24	--	17	3	24	--	13	3
5. Wood Products	24	28	21	3	24	28	16	3
6. Paper Products	40	44	18	3	40	44	13	3
7. Printing, Publishing and Allied Industries	40	44	24	3	40	44	18	3
8. Iron and Steel Products	36	40	17	3	36	40	13	3
9. Transportation Equipment	32	36	24	3	32	36	18	3
10. Non-ferrous Metal Products and Electrical Apparatus and Supplies	32	36	18	3	32	36	13	3
11. Non-metallic Mineral Products and Products of Petroleum and Coal	28	32	21	3	28	32	16	3
12. Chemical Products	40	44	18	3	40	44	13	3
13. Miscellaneous Manufacturing Industries	24	28	10	3	24	28	8	3

See note to Table 25.

TABLE 27. Estimates of Gross Fixed Capital Formation, by Major Groups, Manufacturing, 1871-1960

Year	Food and beverages				Tobacco, Rubber and Leather products				Textile products			
	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses
	millions of current dollars											
1871	0.3	–			0.1	–			0.3	–		
1872	0.3	–			0.1	–			0.4	–		
1873	0.4	–			0.1	–			0.4	–		
1874	0.4	–			0.1	–			0.4	–		
1875	0.4	–			0.1	–			0.4	–		
1876	0.3	–			0.1	–			0.4	–		
1877	0.3	–			0.1	–			0.3	–		
1878	0.3	–			0.1	–			0.3	–		
1879	0.3	–			0.1	–			0.3	–		
1880	0.6	–			0.2	–			0.5	–		
1881	0.9	–			0.2	–			1.2	–		
1882	1.1	–			0.2	–			1.6	–		
1883	1.1	–			0.2	–			1.5	–		
1884	0.9	–			0.2	–			1.1	–		
1885	0.7	–			0.1	–			1.0	–		
1886	0.7	–			0.1	–			1.0	–		
1887	0.8	–			0.2	–			1.0	–		
1888	0.9	–			0.2	–			1.1	–		
1889	0.9	–			0.2	–			1.1	–		
1890	0.7	–			0.2	–			1.0	–		
1891	0.6	–			0.1	–			0.8	–		
1892	0.5	–			0.1	–			0.6	–		
1893	0.5	–			0.1	–			0.6	–		
1894	0.5	–			0.1	–			0.6	–		
1895	0.5	–			0.1	–			0.6	–		
1896	0.6	–	0.9		0.1	–	0.3		0.7	–	0.7	
1897	0.6	–	1.1		0.1	–	0.4		0.8	–	0.9	
1898	0.8	–	1.5		0.2	–	0.5		1.0	–	1.2	
1899	1.1	–	2.0		0.2	–	0.7		1.3	–	1.6	
1900	1.3	–	2.4		0.2	–	0.8		1.2	–	1.5	
1901	1.5	–	2.7		0.2	–	0.7		1.2	–	1.4	
1902	1.8	0.1	3.1		0.3	–	0.8		1.2	–	1.3	
1903	2.3	0.1	3.7		0.3	–	1.0		1.4	–	1.5	
1904	2.4	0.1	3.7		0.4	–	1.0		1.5	–	1.5	
1905	2.3	0.1	3.6		0.4	–	1.1		1.6	–	1.6	
1906	2.3	0.1	3.5		0.5	–	1.5		1.5	–	1.5	
1907	2.2	0.1	3.4		0.7	–	1.9		2.0	–	2.0	
1908	2.2	0.1	3.2		0.7	–	1.8		2.0	–	1.8	
1909	2.3	0.1	3.4		0.7	–	1.9		2.1	–	2.0	
1910	2.7	0.1	3.9		0.9	0.1	2.5		2.8	–	2.6	
1911	3.1	0.1	4.4		0.9	0.1	2.5		3.4	–	3.1	
1912	3.7	0.1	4.9		1.2	0.1	3.2		4.4	0.1	4.0	
1913	3.7	0.1	4.9		1.3	0.1	3.2		4.5	0.1	4.0	
1914	2.4	0.1	3.4		0.9	–	2.3		3.0	–	2.8	
1915	2.0	0.1	2.8		0.7	–	1.9		2.2	–	2.3	

TABLE 27. Estimates of Gross Fixed Capital Formation, by Major Groups, Manufacturing, 1871-1960 — Continued

Year	Food and beverages				Tobacco, rubber and leather products				Textile products			
	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses
	millions of current dollars											
1916	2.7	0.1	4.6		0.9	0.1	3.1		3.4	—	3.8	
1917	3.0	0.1	5.6		1.0	0.1	3.7		3.6	0.1	4.6	
1918	4.4	0.1	8.0		0.9	—	3.1		1.2	—	1.4	
1919	3.3	0.1	5.2		0.8	—	2.1		2.7	—	2.8	
1920	9.6	0.3	14.5	3.0	0.9	0.1	2.6	0.8	3.6	0.1	3.7	0.9
1921	10.6	0.3	16.3	3.4	0.8	—	2.2	0.6	1.6	—	1.6	0.4
1922	7.6	0.2	11.1	2.3	0.6	—	1.6	0.5	2.8	—	2.7	0.7
1923	8.3	0.3	12.7	2.7	0.8	—	2.2	0.6	2.5	—	2.5	0.6
1924	5.8	0.2	9.0	1.9	0.4	—	1.0	0.3	3.6	—	3.7	0.9
1925	3.4	0.1	5.2	1.1	0.6	—	1.6	0.5	2.9	—	2.7	0.7
1926	2.6	0.1	8.1	1.5	0.8	—	1.4	0.5	4.6	0.1	2.5	0.8
1927	4.3	0.1	9.0	1.8	1.0	0.1	3.4	0.9	6.1	0.1	7.3	1.5
1928	9.3	0.3	9.7	2.2	2.7	0.2	2.9	0.9	0.6	—	7.9	1.6
1929	13.1	0.4	13.1	2.7	2.4	0.1	3.6	0.7	1.4	—	4.6	1.1
1930	7.2	0.2	10.0	2.3	2.0	0.1	2.2	0.7	6.7	0.1	3.1	0.9
1931	7.0	0.2	5.4	1.1	0.9	—	1.3	0.3	1.7	—	10.6	1.5
1932	4.7	0.2	3.1	0.7	0.4	—	1.1	0.2	1.0	—	2.7	0.5
1933	0.8	—	2.0	0.6	2.7	0.2	1.5	0.3	0.9	—	3.6	0.7
1934	1.5	0.1	3.7	0.7	0.4	—	1.5	0.3	0.6	—	4.8	0.9
1935	3.4	0.1	5.4	1.3	0.1	—	1.9	0.4	2.8	—	7.1	1.3
1936	5.1	0.2	5.5	1.0	15.5	0.9	5.3	0.8	1.3	—	5.3	1.0
1937	8.2	0.3	10.5	1.9	1.7	0.1	2.4	0.6	2.6	—	6.2	1.4
1938	7.6	0.2	11.8	2.1	0.8	—	2.5	0.6	1.4	—	5.0	1.2
1939	7.2	0.3	11.0	2.0	1.0	0.1	2.0	0.5	0.6	—	5.0	1.1
1940	10.4	0.3	12.4	9.6	2.6	0.1	2.3	2.3	3.4	—	10.2	9.3
1941	9.4	0.3	14.0	11.2	2.3	0.1	2.7	2.8	3.1	—	8.6	8.1
1942	8.2	0.3	10.9	10.1	2.3	0.1	1.8	2.3	1.5	—	4.9	6.5
1943	5.9	0.2	8.0	7.5	2.1	0.1	1.7	2.0	0.8	—	1.8	3.1
1944	10.4	0.3	11.4	10.8	2.2	0.1	2.7	1.9	1.8	—	4.9	4.1
1945	17.6	0.6	16.2	14.7	5.6	0.3	4.4	3.8	1.3	—	7.7	6.7
1946	23.9	0.8	28.4	6.1	6.4	0.3	6.1	1.6	8.3	0.1	16.2	3.3
1947	31.9	1.1	49.8	8.5	4.4	0.2	11.9	2.4	10.7	0.2	25.7	4.2
1948	30.9	1.0	56.5	9.0	3.3	0.2	8.6	1.8	6.4	0.1	29.1	4.6
1949	26.8	0.9	51.0	8.5	2.5	0.1	8.5	1.6	6.9	0.1	25.1	4.2
1950	25.2	0.8	49.2	8.5	2.2	0.1	7.5	1.6	6.5	0.1	20.8	3.9
1951	27.1	0.9	51.1	8.7	3.2	0.2	9.5	1.9	9.8	0.1	29.2	4.7
1952	25.7	0.9	50.7	8.6	3.6	0.2	10.8	2.2	6.9	0.1	24.5	4.0
1953	25.2	0.8	59.0	9.9	5.7	0.3	15.5	2.6	7.8	0.1	20.0	3.6
1954	37.6	1.0	65.7	10.8	5.4	0.3	15.4	2.5	7.5	—	21.0	3.5
1955	38.0	0.5	65.2	10.9	4.9	0.2	16.7	2.7	7.5	0.1	20.4	3.7
1956	30.5	2.1	76.5	12.1	8.1	0.1	18.2	3.0	10.2	0.1	28.0	4.5
1957	35.0	1.3	80.8	13.1	8.9	0.4	20.4	3.3	7.8	0.1	31.4	4.9
1958	39.6	0.9	85.7	13.7	6.4	0.2	15.8	2.8	2.5	0.1	20.7	3.7
1959	44.0	1.4	87.4	14.3	7.1	0.5	16.8	3.1	4.6	0.1	18.1	3.4
1960	50.5	1.7	98.2	15.4	8.5	1.3	24.9	3.8	5.9	0.1	21.1	3.8

TABLE 27. Estimates of Cross Fixed Capital Formation, by Major Groups, Manufacturing, 1871-1960 — Continued

Year	Clothing				Wood products				Paper products			
	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses
	millions of current dollars											
1871	0.1	—			0.3	0.1			0.1	—		
1872	0.2	—			0.5	0.1			0.1	—		
1873	0.2	—			0.5	0.1			0.1	—		
1874	0.2	—			0.5	0.1			0.1	—		
1875	0.2	—			0.5	0.1			0.1	—		
1876	0.2	—			0.5	0.1			0.1	—		
1877	0.2	—			0.5	0.1			0.1	—		
1878	0.2	—			0.4	0.1			0.1	—		
1879	0.2	—			0.5	0.1			0.1	—		
1880	0.2	—			0.9	0.1			0.1	—		
1881	0.2	—			1.2	0.2			0.2	0.1		
1882	0.3	—			1.6	0.2			0.3	0.1		
1883	0.3	—			1.6	0.2			0.3	0.1		
1884	0.2	—			1.1	0.2			0.2	0.1		
1885	0.2	—			1.0	0.2			0.2	0.1		
1886	0.2	—			1.1	0.2			0.2	0.1		
1887	0.2	—			1.1	0.2			0.2	0.1		
1888	0.2	—			1.1	0.2			0.2	0.1		
1889	0.2	—			1.2	0.2			0.2	0.1		
1890	0.2	—			1.0	0.2			0.4	0.1		
1891	0.2	—			0.9	0.1			0.6	0.1		
1892	0.2	—			0.6	0.1			0.8	0.1		
1893	0.2	—			0.6	0.1			0.7	0.1		
1894	0.2	—			0.5	0.1			0.7	0.1		
1895	0.2	—			0.5	0.1			0.7	0.1		
1896	0.2	—	0.2		0.7	0.1	1.0		0.9	0.1	0.9	
1897	0.3	—	0.3		0.8	0.1	1.2		0.8	0.1	1.0	
1898	0.4	—	0.4		1.0	0.2	1.7		1.1	0.2	1.4	
1899	0.5	—	0.5		1.3	0.2	2.2		1.4	0.2	1.8	
1900	0.6	—	0.6		1.6	0.3	2.6		1.4	0.2	1.7	
1901	0.7	—	0.7		3.1	0.5	4.9		1.2	0.2	1.5	
1902	0.9	—	0.8		3.9	0.6	5.7		1.2	0.2	1.4	
1903	1.1	—	0.9		5.1	0.8	7.0		1.6	0.2	1.7	
1904	1.1	—	0.9		5.2	0.8	7.0		1.7	0.2	1.7	
1905	1.2	—	1.0		5.5	0.9	7.4		2.4	0.3	2.5	
1906	1.2	—	1.0		5.6	0.9	7.4		3.1	0.5	3.2	
1907	1.5	—	1.3		7.0	1.1	9.5		3.7	0.6	4.0	
1908	1.6	—	1.2		7.2	1.2	8.8		3.9	0.6	3.7	
1909	1.7	—	1.3		7.5	1.2	9.5		4.1	0.6	4.0	
1910	2.2	—	1.7		7.1	1.1	8.8		5.3	0.8	5.2	
1911	2.1	—	1.6		6.6	1.0	8.0		8.2	1.2	7.8	
1912	2.9	—	2.1		6.2	1.0	7.3		11.1	1.6	10.1	
1913	2.9	—	2.1		6.3	1.0	7.3		11.3	1.7	10.1	
1914	2.0	—	1.5		4.3	0.7	5.2		7.5	1.1	7.1	
1915	1.4	—	1.2		3.2	0.5	4.3		5.6	0.8	5.9	

TABLE 27. Estimates of Gross Fixed Capital Formation, by Major Groups, Manufacturing, 1871-1960 – Continued

Year	Clothing				Wood products				Paper products			
	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses
	millions of current dollars											
1916	2.2	–	2.0		4.8	0.8	7.0		8.5	1.3	9.6	
1917	1.6	–	1.6		5.4	0.8	8.4		9.4	1.4	11.5	
1918	1.1	–	1.1		2.0	0.3	3.1		2.6	0.4	3.2	
1919	0.8	–	0.7		2.2	0.4	3.1		11.2	1.6	11.9	
1920	2.1	–	1.7	0.5	1.5	0.2	2.0	0.9	22.1	3.2	22.6	6.4
1921	1.4	–	1.2	0.3	3.3	0.5	4.4	1.9	6.8	1.0	7.2	2.1
1922	1.9	–	1.5	0.4	1.6	0.2	2.0	0.9	11.4	1.7	11.4	3.2
1923	1.4	–	1.2	0.3	1.5	0.2	2.0	0.9	15.0	2.2	15.6	4.4
1924	1.3	–	1.1	0.3	8.5	1.4	11.5	5.0	17.7	2.6	18.6	5.3
1925	1.2	–	1.0	0.3	4.3	0.7	5.8	2.5	19.5	2.9	20.5	5.8
1926	2.0	–	1.5	0.3	2.8	0.5	4.4	2.9	18.7	2.7	22.5	4.1
1927	7.5	–	1.7	0.4	18.6	2.9	6.2	2.0	20.7	3.0	23.7	5.8
1928	10.8	–	1.5	0.5	6.4	1.0	3.7	2.0	27.7	4.1	17.2	4.2
1929	13.3	–	2.2	0.6	8.8	1.4	2.8	1.1	14.0	2.0	9.6	4.6
1930	0.8	–	1.0	0.4	5.1	0.8	4.2	1.1	3.8	0.6	20.8	5.7
1931	1.6	–	0.6	0.2	0.9	0.1	2.2	1.2	9.9	1.4	1.9	2.6
1932	1.3	–	0.5	0.2	3.8	0.6	1.5	0.8	1.8	0.3	1.2	1.1
1933	1.1	–	0.6	0.1	6.0	1.0	1.5	0.7	0.1	–	0.7	0.7
1934	0.4	–	0.8	0.2	3.8	0.6	1.2	0.8	0.7	0.1	2.7	1.2
1935	0.1	–	0.7	0.2	0.9	0.1	2.2	0.8	1.9	0.3	2.4	1.6
1936	0.8	–	1.1	0.3	2.4	0.4	1.5	0.7	1.3	0.2	3.6	1.7
1937	1.8	–	1.6	0.4	12.2	1.9	3.6	1.5	3.7	0.5	6.4	2.9
1938	0.4	–	1.0	0.3	1.0	0.2	2.6	1.8	2.3	0.3	4.6	1.6
1939	1.4	–	1.9	0.6	4.2	0.7	1.8	1.2	3.4	0.5	2.2	1.8
1940	2.4	–	1.7	2.4	6.9	1.1	3.1	10.2	4.4	0.7	9.8	16.4
1941	10.9	–	2.1	2.6	9.3	1.5	6.3	10.4	7.7	1.1	5.6	12.4
1942	3.0	–	1.1	1.9	9.8	1.5	4.1	8.0	3.3	0.5	9.6	16.6
1943	1.6	–	1.2	1.3	14.5	2.3	3.6	5.6	1.5	0.2	5.1	9.7
1944	2.8	–	1.1	1.4	2.5	0.4	2.4	5.2	7.0	1.0	6.7	12.8
1945	9.2	–	4.4	3.1	1.4	0.2	3.6	7.6	5.1	0.7	10.8	18.7
1946	2.6	–	5.8	1.2	9.4	1.5	9.5	2.7	23.7	3.5	27.8	7.0
1947	3.7	–	10.3	1.7	9.8	1.6	20.7	4.1	27.2	4.0	49.8	9.8
1948	2.1	–	10.2	1.6	6.8	1.1	18.5	4.0	25.4	3.7	60.4	11.5
1949	3.0	–	10.7	1.6	6.5	1.0	19.2	3.9	23.4	3.4	54.7	11.0
1950	2.5	–	9.4	1.5	7.0	1.1	21.3	4.3	18.4	2.7	57.4	11.6
1951	4.1	–	9.1	1.4	9.7	1.5	27.4	5.3	36.5	5.4	83.4	15.5
1952	1.6	–	11.1	1.5	8.0	1.3	22.5	4.6	29.3	4.3	95.9	16.9
1953	3.8	–	10.6	1.5	9.0	1.4	24.2	4.7	19.6	2.9	81.6	15.1
1954	2.2	–	7.6	1.2	7.8	0.6	24.5	4.9	19.7	1.9	65.7	14.1
1955	1.4	–	7.8	1.2	10.8	1.3	30.9	6.0	29.4	3.7	105.8	18.1
1956	1.3	–	8.4	1.3	12.2	1.8	36.8	6.6	71.2	13.9	172.3	25.8
1957	1.2	–	9.6	1.5	9.1	1.2	28.7	5.6	57.3	9.0	200.0	29.0
1958	0.7	–	7.5	1.1	7.4	1.4	22.1	4.6	22.4	3.1	101.7	18.8
1959	1.6	–	10.9	1.6	13.4	1.9	35.4	6.5	21.0	3.2	102.4	19.6
1960	2.3	–	9.9	1.4	12.7	3.4	33.4	6.5	29.1	5.0	130.2	22.3

TABLE 27. Estimates of Gross Fixed Capital Formation, by Major Groups, Manufacturing, 1871-1960 – Continued

Year	Printing, publishing and allied industries				Iron and steel products				Transportation equipment			
	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses
	millions of current dollars											
1871	0.1	–			0.3	–			0.1	–		
1872	0.1	–			0.3	–			0.1	–		
1873	0.1	–			0.4	–			0.1	–		
1874	0.1	–			0.4	–			0.1	–		
1875	0.1	–			0.4	–			0.1	–		
1876	0.1	–			0.3	–			0.1	–		
1877	0.1	–			0.3	–			0.1	–		
1878	0.1	–			0.3	–			0.1	–		
1879	0.1	–			0.3	–			0.1	–		
1880	0.1	–			0.5	–			0.2	–		
1881	0.2	–			0.7	–			0.2	–		
1882	0.2	–			0.9	0.1			0.3	–		
1883	0.2	–			0.8	0.1			0.3	–		
1884	0.2	–			0.7	–			0.2	–		
1885	0.1	–			0.6	–			0.2	–		
1886	0.1	–			0.6	–			0.2	–		
1887	0.2	–			0.7	–			0.2	–		
1888	0.2	–			0.7	–			0.2	–		
1889	0.2	–			0.7	–			0.2	–		
1890	0.2	–			0.7	–			0.2	–		
1891	0.1	–			0.4	–			0.3	–		
1892	0.2	–			0.5	–			0.3	–		
1893	0.2	–			0.5	–			0.3	–		
1894	0.1	–			0.4	–			0.3	–		
1895	0.1	–			0.4	–			0.3	–		
1896	0.2	–	0.4		0.6	–	1.1		0.3	–	0.3	
1897	0.2	–	0.4		0.6	–	1.4		0.4	–	0.4	
1898	0.3	–	0.6		0.7	–	1.8		0.4	0.1	0.6	
1899	0.3	–	0.8		0.9	0.1	2.4		0.5	0.1	0.7	
1900	0.4	–	0.9		1.2	0.1	2.9		0.7	0.1	0.9	
1901	0.3	–	0.7		1.2	0.1	2.9		0.8	0.1	1.0	
1902	0.4	–	0.8		1.4	0.1	3.3		1.1	0.1	1.2	
1903	0.6	–	1.0		2.0	0.1	4.1		1.4	0.2	1.5	
1904	0.5	–	1.0		2.0	0.1	4.1		1.4	0.2	1.5	
1905	0.6	–	1.1		2.1	0.1	4.3		1.2	0.2	1.3	
1906	0.5	–	0.9		3.2	0.2	6.5		1.2	0.1	1.2	
1907	0.7	–	1.2		4.1	0.2	8.2		1.0	0.1	1.0	
1908	0.7	–	1.1		4.2	0.2	7.6		1.0	0.1	0.9	
1909	0.7	–	1.2		4.2	0.3	8.2		1.0	0.1	1.0	
1910	0.9	–	1.6		5.7	0.3	10.8		4.2	0.5	4.1	
1911	1.2	–	2.2		7.4	0.4	14.2		7.6	0.9	7.2	
1912	1.7	–	2.8		10.0	0.6	18.2		11.3	1.4	10.3	
1913	1.8	–	2.8		10.4	0.6	18.2		11.5	1.4	10.3	
1914	1.2	–	2.0		6.9	0.4	12.9		8.1	1.0	7.3	
1915	0.9	–	1.7		5.0	0.3	10.7		5.8	0.7	6.1	

TABLE 27. Estimates of Gross Fixed Capital Formation, by Major Groups, Manufacturing, 1871 - 1960 — Continued

Year	Printing, publishing and allied industries				Iron and steel products				Transportation equipment			
	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses
	millions of current dollars											
1916	1.4	–	2.7		7.6	0.5	17.3		8.6	1.1	9.8	
1917	1.5	–	3.2		5.3	0.3	12.6		9.7	1.2	11.9	
1918	1.0	–	3.3		3.2	0.2	7.9		7.9	1.0	9.7	
1919	1.5	–	3.0		1.5	0.1	3.3		0.8	0.1	0.9	
1920	2.6	–	4.8	0.9	3.1	0.2	6.4	1.7	3.5	0.4	3.6	0.9
1921	1.0	–	2.0	0.4	2.2	0.1	4.7	1.3	0.6	0.1	0.7	0.2
1922	2.4	–	4.5	0.9	1.9	0.1	3.8	1.0	1.2	0.2	1.2	0.3
1923	4.3	–	8.2	1.6	1.4	0.1	2.9	0.8	1.7	0.2	1.8	0.4
1924	1.5	–	2.9	0.6	1.5	0.1	3.2	0.9	2.2	0.3	2.3	0.5
1925	2.1	–	4.1	0.8	2.3	0.1	4.9	1.3	3.6	0.5	3.8	0.9
1926	0.8	–	4.1	0.8	4.1	0.2	4.1	1.2	0.7	0.1	1.1	0.3
1927	0.5	–	3.3	0.7	4.7	0.3	4.5	1.5	4.3	0.5	2.8	0.7
1928	9.3	0.1	6.8	1.2	4.5	0.3	7.3	1.6	6.2	0.8	6.2	1.3
1929	7.4	0.1	8.2	1.3	7.8	0.5	9.8	2.0	7.4	0.9	5.6	1.2
1930	0.2	–	4.5	0.9	11.8	0.7	5.0	1.5	1.6	0.2	3.3	0.8
1931	0.3	–	2.8	0.5	4.4	0.3	5.0	0.9	0.3	–	2.5	0.5
1932	0.7	–	2.1	0.3	0.5	–	1.6	0.4	0.2	–	2.1	0.3
1933	0.3	–	0.9	0.2	0.6	–	1.2	0.3	0.5	0.1	1.6	0.2
1934	–	–	0.9	0.1	2.4	0.1	2.4	0.5	1.9	0.2	1.3	0.2
1935	0.6	–	5.5	0.7	2.3	0.1	2.6	0.7	2.1	0.3	2.8	0.4
1936	–	–	1.7	0.3	2.9	0.2	2.8	0.8	0.8	0.1	2.4	0.9
1937	1.2	–	2.7	0.5	9.4	0.6	8.3	1.7	4.6	0.6	5.2	1.5
1938	0.6	–	3.2	0.7	4.7	0.3	5.2	1.2	12.9	1.6	6.3	1.7
1939	0.3	–	5.7	0.9	4.1	0.2	5.1	1.1	2.6	0.3	4.5	1.2
1940	0.6	–	4.2	3.3	4.6	0.3	15.1	11.1	3.0	0.4	8.0	8.7
1941	–	–	2.6	2.6	9.3	0.6	32.0	22.4	2.7	0.3	8.9	11.5
1942	0.3	–	2.0	2.0	6.8	0.4	37.5	26.5	24.8	3.1	17.6	17.3
1943	0.2	–	1.2	1.6	4.1	0.2	24.0	15.7	5.9	0.7	13.5	11.9
1944	0.2	–	2.2	2.0	9.5	0.6	22.2	16.0	1.4	0.2	4.7	8.4
1945	3.9	–	2.1	2.9	12.1	0.7	18.5	17.7	2.0	0.2	8.6	10.6
1946	2.9	–	4.4	0.9	14.1	0.8	22.0	5.6	4.8	0.6	10.3	3.1
1947	5.4	–	8.4	1.3	15.1	0.9	38.9	8.0	4.6	0.6	8.9	2.6
1948	6.9	0.1	12.4	1.7	18.5	1.1	36.7	8.0	4.8	0.6	10.0	2.9
1949	6.2	0.1	13.8	1.8	13.8	0.8	37.7	8.0	6.0	0.7	15.3	3.7
1950	5.0	–	14.4	2.0	12.7	0.8	30.7	7.7	8.8	1.1	17.4	4.0
1951	6.2	0.1	18.0	2.3	44.5	2.6	50.1	11.1	19.4	2.4	27.1	4.9
1952	3.3	–	11.0	1.5	43.6	2.6	89.7	15.4	33.0	4.1	25.0	5.6
1953	3.8	–	12.6	1.7	33.6	2.0	78.4	14.9	41.7	5.2	50.4	8.3
1954	11.6	0.1	19.7	2.4	21.0	1.0	66.4	13.0	19.5	1.4	44.3	7.4
1955	6.4	–	17.7	2.2	26.4	0.6	68.2	14.4	19.5	0.7	34.1	6.3
1956	5.2	0.1	20.2	2.6	38.4	1.9	122.2	21.6	15.4	1.3	43.6	7.6
1957	17.3	–	22.8	2.9	51.4	3.1	125.1	22.5	15.3	2.8	44.3	7.8
1958	13.3	0.1	20.1	2.6	32.2	3.5	90.7	17.4	13.4	3.2	37.7	6.9
1959	11.8	–	28.4	3.6	36.5	4.4	124.8	24.6	18.3	2.2	45.2	7.8
1960	7.3	0.1	21.8	2.9	44.9	2.3	149.6	26.8	14.2	2.2	32.3	6.3

TABLE 27. Estimates of Gross Fixed Capital Formation, by Major Groups, Manufacturing, 1871-1960 – Continued

Year	Non-ferrous metal products and electrical apparatus and supplies				Non-metallic mineral products and products of petroleum and coal				Chemical products			
	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses
	millions of current dollars											
1871	–	–			–	0.1			0.1	–		
1872	–	–			–	0.1			0.1	–		
1873	–	–			–	0.1			0.1	–		
1874	–	–			–	0.1			0.1	–		
1875	–	–			–	0.1			0.1	–		
1876	–	–			–	0.1			0.1	–		
1877	–	–			–	0.1			0.1	–		
1878	–	–			–	0.1			0.1	–		
1879	–	–			–	0.1			0.1	–		
1880	–	–			–	0.1			0.1	–		
1881	0.1	–			0.1	0.1			0.1	–		
1882	0.2	–			0.1	0.3			0.2	–		
1883	0.1	–			0.1	0.3			0.2	–		
1884	0.1	–			0.1	0.1			0.1	–		
1885	0.1	–			0.1	0.1			0.1	–		
1886	0.1	–			0.1	0.1			0.1	–		
1887	0.1	–			0.1	0.1			0.1	–		
1888	0.1	–			0.1	0.1			0.1	–		
1889	0.1	–			0.1	0.1			0.1	–		
1890	0.2	–			0.1	0.1			0.1	–		
1891	0.2	–			–	0.1			0.1	–		
1892	0.3	–			–	0.1			0.1	–		
1893	0.2	–			–	0.1			0.1	–		
1894	0.2	–			–	0.1			0.1	–		
1895	0.2	–			–	0.1			0.1	–		
1896	0.3	–	0.7		0.1	0.1	0.1		0.1	–	0.1	
1897	0.3	–	0.8		–	0.1	0.1		0.2	–	0.2	
1898	0.4	–	1.1		–	0.1	0.1		0.2	–	0.2	
1899	0.5	–	1.4		0.1	0.1	0.2		0.2	0.1	0.3	
1900	0.6	–	1.7		0.3	0.9	1.0		0.4	0.1	0.4	
1901	0.9	0.1	2.6		0.6	1.6	1.8		0.4	0.1	0.4	
1902	1.1	0.1	3.0		0.9	2.5	2.6		0.4	0.1	0.4	
1903	1.5	0.1	3.6		1.2	3.2	3.2		0.6	0.1	0.5	
1904	1.5	0.1	3.6		1.2	3.4	3.2		0.6	0.1	0.5	
1905	1.6	0.1	3.8		1.0	2.8	2.7		0.6	0.1	0.5	
1906	1.3	0.1	3.1		0.8	2.4	2.2		1.1	0.3	1.0	
1907	1.7	0.1	4.0		0.6	1.8	1.7		1.3	0.4	1.2	
1908	1.7	0.1	3.7		0.7	1.8	1.6		1.3	0.4	1.1	
1909	1.8	0.1	4.0		0.7	1.9	1.7		1.4	0.4	1.2	
1910	1.6	0.1	3.5		0.9	2.4	2.2		4.2	1.1	3.5	
1911	1.4	0.1	3.1		1.0	2.6	2.3		7.0	1.8	5.7	
1912	1.2	0.1	2.6		1.3	3.5	3.0		10.2	2.7	8.0	
1913	1.3	0.1	2.6		1.4	3.8	3.0		10.5	2.7	8.0	
1914	0.8	0.1	1.9		0.9	2.4	2.1		7.0	1.8	5.7	
1915	0.7	–	1.5		0.7	2.1	1.8		5.3	1.4	4.7	

TABLE 27. Estimates of Gross Fixed Capital Formation, by Major Groups, Manufacturing, 1871-1960 – Continued

Year	Non-ferrous metal products and electrical apparatus and supplies				Non-metalic mineral products and products of petroleum and coal				Chemical products			
	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses
	millions of current dollars											
1916	0.9	0.1	2.5		1.2	3.3	2.9		8.1	2.1	7.6	
1917	1.0	0.1	3.0		1.3	3.7	3.5		9.1	2.3	9.2	
1918	1.4	0.1	4.0		1.0	2.7	2.7		9.0	2.3	9.1	
1919	1.7	0.1	4.2		1.0	2.8	2.7		9.9	2.6	9.0	
1920	1.9	0.1	4.4	0.8	1.0	2.8	2.7	1.0	2.3	0.6	2.0	0.4
1921	2.2	0.2	5.3	1.0	0.3	0.9	0.9	0.3	2.2	0.6	2.0	0.4
1922	0.4	–	0.9	0.2	0.1	0.2	0.2	0.1	1.7	0.4	1.4	0.3
1923	1.1	0.1	2.7	0.5	3.3	9.1	9.1	3.4	3.5	0.9	3.1	0.6
1924	1.1	0.1	2.7	0.5	1.4	3.9	3.9	1.5	0.6	0.2	0.6	0.1
1925	0.4	–	0.9	0.2	0.5	1.3	1.3	0.5	1.6	0.4	1.4	0.3
1926	2.4	0.2	4.8	0.8	1.8	4.9	2.0	1.0	3.5	0.9	1.4	0.3
1927	1.8	0.1	3.9	0.8	1.6	4.4	3.2	1.4	1.9	0.5	3.5	0.6
1928	1.4	0.1	4.0	0.9	8.5	23.5	3.2	1.3	1.0	0.2	2.6	0.6
1929	3.3	0.2	4.9	0.9	8.7	24.0	4.0	1.3	8.7	2.2	5.2	0.9
1930	1.7	0.1	7.5	1.3	7.2	20.0	3.7	0.8	2.3	0.6	3.5	0.8
1931	0.9	0.1	4.7	0.6	2.2	6.0	3.5	0.8	1.4	0.4	2.3	0.5
1932	0.6	–	3.2	0.4	0.6	1.5	1.7	0.4	0.6	0.1	1.1	0.2
1933	0.4	–	1.0	0.3	0.5	1.5	1.3	0.4	0.8	0.2	2.9	0.2
1934	0.6	–	1.5	0.3	0.9	2.4	1.5	0.4	1.9	0.5	1.6	0.4
1935	0.7	0.1	1.8	0.5	1.0	2.6	1.4	0.6	0.9	0.2	2.0	0.5
1936	0.7	–	2.9	0.6	1.0	2.6	1.3	0.5	0.3	0.1	2.3	0.4
1937	0.7	0.1	9.3	1.6	1.9	5.1	1.8	0.6	4.4	1.1	2.0	0.5
1938	1.2	0.1	7.8	1.3	1.4	3.9	2.0	0.6	2.3	0.6	3.4	0.8
1939	0.4	–	7.2	1.2	1.2	3.2	2.3	0.6	0.8	0.2	2.4	0.6
1940	31.7	2.3	18.0	12.8	1.7	4.7	2.7	4.8	1.5	0.4	4.5	4.2
1941	55.9	4.1	69.0	37.6	1.4	3.9	3.2	5.1	2.5	0.7	8.9	6.7
1942	77.3	5.7	52.0	30.1	1.0	2.9	3.2	5.3	4.2	1.1	4.7	4.9
1943	33.7	2.5	39.5	19.6	1.0	2.7	3.4	3.8	2.0	0.5	3.1	2.7
1944	13.7	1.0	6.3	9.2	0.9	2.6	2.5	4.2	1.1	0.3	1.6	3.2
1945	1.4	0.1	9.2	11.1	2.1	5.7	4.4	6.3	3.2	0.8	3.6	4.5
1946	4.9	0.4	14.0	3.9	2.3	6.4	8.8	2.7	9.2	2.4	8.0	2.3
1947	11.2	0.8	19.1	4.8	9.2	25.5	21.0	4.4	11.4	3.0	19.3	3.6
1948	9.0	0.7	26.7	6.4	10.7	29.7	30.4	5.3	11.9	3.1	26.9	4.5
1949	14.2	1.0	30.3	6.6	6.6	18.4	22.5	4.9	9.4	2.5	25.9	4.5
1950	11.2	0.8	24.1	6.2	5.0	13.7	30.5	5.9	5.8	1.5	19.0	4.0
1951	36.0	2.7	41.6	8.4	8.8	24.4	56.2	8.2	15.2	4.0	38.5	6.5
1952	53.0	3.9	54.2	10.0	13.9	38.4	59.5	8.6	48.6	12.6	79.8	10.6
1953	49.7	3.7	61.9	11.3	19.3	53.4	41.2	7.5	25.4	6.6	90.3	11.7
1954	27.6	4.4	53.3	10.7	27.6	71.6	37.6	7.2	13.8	1.3	24.7	5.6
1955	42.9	2.5	66.8	12.4	39.2	83.4	34.1	6.9	20.3	1.3	34.7	6.5
1956	70.1	7.0	81.8	14.8	57.3	78.0	77.7	11.8	49.4	8.5	87.0	11.8
1957	77.1	6.6	105.0	17.5	33.0	109.8	65.8	10.8	33.5	32.1	84.1	12.3
1958	49.0	2.0	74.0	13.7	39.9	110.5	33.2	7.2	34.2	8.9	73.5	11.5
1959	36.1	0.2	54.4	12.1	25.4	109.7	60.3	10.6	22.3	2.2	56.5	10.1
1960	32.1	0.4	68.6	14.6	20.2	67.8	42.9	8.9	32.2	4.0	74.1	12.3

TABLE 27. Estimates of Gross Fixed Capital Formation, by Major Groups, Manufacturing, 1871 - 1960 – Continued

Year	Miscellaneous manufacturing industries				Total Manufacturing			
	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses
	millions of current dollars							
1871					1.8	0.2		
1872					2.2	0.2		
1873					2.4	0.2		
1874					2.4	0.2		
1875					2.4	0.2		
1876					2.2	0.2		
1877					2.1	0.2		
1878					2.0	0.2		
1879					2.1	0.2		
1880					3.4	0.2		
1881					5.3	0.4		
1882					7.0	0.6		
1883					6.7	0.6		
1884					5.1	0.4		
1885					4.4	0.4		
1886					4.5	0.4		
1887					4,9	0.4		
1888					5.1	0.4		
1889					5.2	0.4		
1890					5,0	0.4		
1891	0.1	–			4.4	0.3		
1892	0.1	–			4.3	0.3		
1893	0.1	–			4.1	0.3		
1894	0.1	–			3.8	0.3		
1895	0.1	–			3.8	0.3		
1896	0.2	–	0.3		5.0	0.3	7.0	
1897	0.2	–	0.4		5.3	0.3	8.6	
1898	0.2	–	0.5		6.7	0.6	11.6	
1899	0.3	–	0.7		8.6	0.8	15.3	
1900	0.2	–	0.6		10.1	1.7	18.0	
1901	0.2	–	0.5		12.3	2.7	21.8	
1902	0.2	–	0.4		14.8	3.8	24.8	
1903	0.2	–	0.5		19.3	4.8	30.2	
1904	0.2	–	0.5		19.7	5.0	30.2	
1905	0.2	–	0.5		20.7	4.6	31.4	
1906	0.3	–	0.6		22.6	4.6	33.6	
1907	0.4	–	0.7		26.9	4.4	40.1	
1908	0.4	–	0.7		27.6	4.5	37.2	
1909	0.4	–	0.7		28.6	4.7	40.1	
1910	0.6	–	1.0		39.1	6.5	51.4	
1911	0.8	–	1.3		50.7	8.2	63.4	
1912	1.0	–	1.7		66.2	11.2	78.2	
1913	1.0	–	1.7		67.9	11.6	78.2	
1914	0.7	–	1.2		45.7	7.6	55.4	
1915	0.5	–	1.0		34.0	5.9	45.9	

TABLE 27. Estimates of Gross Fixed Capital Formation, by Major Groups, Manufacturing, 1871-1960 — Concluded

Year	Miscellaneous manufacturing industries				Total manufacturing			
	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses	Building construction	Engineering construction	Machinery and equipment	Capital items charged to operating expenses
	millions of current dollars							
1916	0.8	–	1.6		51.1	9.4	74.5	
1917	0.8	–	1.9		52.7	10.1	80.7	
1918	0.3	–	0.8		36.0	7.1	57.4	
1919	0.6	–	1.2		38.0	7.8	50.1	
1920	0.2	–	0.4	0.1	54.4	8.0	71.4	18.3
1921	0.5	–	0.9	0.2	33.5	3.7	49.4	12.5
1922	0.8	–	1.4	0.3	34.4	3.0	43.7	11.1
1923	0.8	–	1.4	0.3	45.6	13.1	65.4	17.1
1924	1.0	–	1.9	0.5	46.6	8.8	62.4	18.3
1925	0.6	–	1.2	0.3	43.0	6.0	54.4	15.2
1926	1.2	–	1.0	0.2	46.0	9.7	58.9	14.7
1927	1.9	–	1.2	0.3	74.9	12.0	73.7	18.4
1928	2.7	–	1.2	0.3	91.1	30.6	74.2	18.6
1929	2.9	–	1.2	0.3	99.2	31.8	74.8	18.7
1930	1.7	–	1.2	0.3	52.1	23.4	70.0	17.5
1931	0.9	–	0.7	0.2	32.4	8.5	43.5	10.9
1932	0.4	–	0.4	0.1	16.6	2.7	22.3	5.6
1933	0.4	–	0.3	0.1	15.1	3.0	19.1	4.8
1934	0.4	–	0.4	0.1	15.5	4.0	24.3	6.1
1935	0.5	–	0.6	0.1	17.3	3.8	36.4	9.1
1936	0.8	–	0.6	0.1	32.9	4.7	36.3	9.1
1937	1.4	–	1.0	0.2	53.8	10.3	61.0	15.3
1938	1.0	–	0.9	0.2	37.6	7.2	56.3	14.1
1939	0.7	–	0.9	0.2	27.9	5.5	52.0	13.0
1940	1.5	–	1.4	1.3	74.7	10.3	93.4	96.4
1941	2.1	–	1.9	1.5	116.6	12.6	165.8	134.9
1942	3.0	–	1.9	1.6	145.5	15.6	151.3	133.1
1943	1.9	–	1.2	0.9	75.2	9.4	107.3	85.4
1944	1.3	–	1.2	1.0	54.8	6.5	69.9	80.2
1945	1.7	–	1.6	1.4	66.6	9.3	95.1	109.1
1946	2.9	–	2.7	0.6	115.4	16.8	164.0	41.0
1947	2.3	–	3.4	0.6	146.9	37.9	287.2	56.0
1948	2.7	–	3.8	0.7	139.4	41.4	330.2	62.0
1949	2.3	–	3.6	0.6	127.6	29.0	318.3	60.9
1950	2.4	–	3.6	0.6	112.7	22.7	305.3	61.8
1951	3.0	–	4.4	0.7	223.5	44.3	445.6	79.6
1952	4.6	0.1	4.1	0.7	275.1	68.5	538.8	90.2
1953	3.6	0.1	5.0	0.8	248.2	76.5	550.7	93.6
1954	2.6	0.1	4.5	0.8	203.9	83.7	450.4	84.1
1955	3.7	–	7.1	1.0	250.4	94.3	509.5	92.3
1956	3.6	–	8.7	1.2	372.9	114.8	781.4	124.7
1957	6.5	0.1	8.5	1.3	353.4	166.5	826.5	132.5
1958	2.6	0.1	9.3	1.4	263.6	134.0	592.0	105.4
1959	5.8	0.2	10.5	1.5	247.9	126.0	651.1	118.8
1960	6.3	0.1	12.2	1.9	266.2	88.4	719.2	126.9

Note: An entry shown as a dash (–) indicates that expenditures were negligible. A blank indicates that it was not necessary to make any estimation for the purpose of the "perpetual inventory" method.

TABLE 28. Price Indexes of Gross Fixed Capital Formation, by Major Groups, Manufacturing, 1871-1960
(1949=1.000)

Year	All combined major groups			Machinery and equipment			
	(1) Building construction	(2) Engineering construction	(3) Capital items charged to operating expenses	(4) Printing, publishing and allied industries	(5) Iron and steel products	(6) Transportation equipment	(7)[1] Other
1871	0.320	0.354					
1872	0.403	0.446					
1873	0.403	0.446					
1874	0.376	0.416					
1875	0.329	0.364					
1876	0.307	0.339					
1877	0.284	0.314					
1878	0.268	0.298					
1879	0.271	0.300					
1880	0.297	0.328					
1881	0.281	0.310					
1882	0.286	0.317					
1883	0.274	0.302					
1884	0.254	0.280					
1885	0.245	0.269					
1886	0.244	0.267					
1887	0.256	0.279					
1888	0.272	0.297					
1889	0.272	0.296					
1890	0.266	0.287					
1891	0.258	0.277					
1892	0.260	0.280					
1893	0.256	0.276					
1894	0.255	0.274					
1895	0.247	0.265					
1896	0.248	0.265		0.211	0.242	0.242	0.266
1897	0.238	0.251		0.270	0.280	0.280	0.287
1898	0.241	0.255		0.290	0.297	0.297	0.303
1899	0.249	0.266		0.310	0.317	0.317	0.323
1900	0.270	0.292		0.308	0.321	0.321	0.331
1901	0.267	0.287		0.304	0.314	0.314	0.321
1902	0.280	0.299		0.299	0.311	0.311	0.320
1903	0.301	0.321		0.285	0.303	0.303	0.318
1904	0.306	0.329		0.301	0.311	0.311	0.318
1905	0.312	0.331		0.300	0.313	0.313	0.322
1906	0.328	0.348		0.301	0.319	0.319	0.333
1907	0.341	0.361		0.315	0.338	0.338	0.355
1908	0.360	0.385		0.293	0.317	0.317	0.336
1909	0.358	0.380		0.322	0.336	0.336	0.347
1910	0.360	0.378		0.321	0.335	0.335	0.345
1911	0.377	0.396		0.348	0.351	0.351	0.353
1912	0.386	0.401		0.329	0.338	0.338	0.346
1913	0.398	0.437		0.322	0.339	0.339	0.353
1914	0.383	0.410		0.339	0.350	0.350	0.360
1915	0.372	0.446		0.380	0.386	0.386	0.392
1916	0.407	0.559		0.426	0.451	0.451	0.470
1917	0.488	0.688		0.532	0.578	0.578	0.614
1918	0.566	0.734		0.651	0.677	0.677	0.697
1919	0.663	0.723		0.681	0.692	0.692	0.700
1920	0.802	0.834	0.811	0.788	0.801	0.801	0.811
1921	0.706	0.722	0.732	0.743	0.737	0.737	0.732
1922	0.632	0.616	0.616	0.606	0.612	0.612	0.616
1923	0.649	0.640	0.660	0.648	0.654	0.654	0.660
1924	0.634	0.635	0.654	0.645	0.650	0.650	0.654
1925	0.620	0.605	0.636	0.633	0.635	0.635	0.636

See footnote at end of table.

TABLE 28. Price Indexes of Gross Fixed Capital Formation, by Major Groups, Manufacturing, 1871-1960 – Concluded
(1949=1.000)

Year	All combined major groups			Machinery and equipment			
	(1) Building construction	(2) Engineering construction	(3) Capital items charged to operating expenses	(4) Printing, publishing and allied industries	(5) Iron and steel products	(6) Transportation equipment	(7)[1] Other
1926	0.615	0.574	0.624	0.621	0.622	0.622	0.624
1927	0.621	0.551	0.614	0.614	0.614	0.614	0.614
1928	0.626	0.551	0.618	0.615	0.616	0.616	0.618
1929	0.655	0.573	0.618	0.616	0.617	0.617	0.618
1930	0.638	0.545	0.570	0.574	0.572	0.572	0.570
1931	0.601	0.511	0.530	0.571	0.548	0.548	0.530
1932	0.572	0.488	0.521	0.602	0.557	0.557	0.521
1933	0.550	0.476	0.511	0.589	0.545	0.545	0.511
1934	0.550	0.481	0.553	0.587	0.568	0.568	0.553
1935	0.553	0.485	0.576	0.600	0.586	0.586	0.576
1936	0.556	0.499	0.596	0.606	0.601	0.601	0.596
1937	0.590	0.453	0.671	0.663	0.667	0.667	0.671
1938	0.587	0.528	0.672	0.666	0.670	0.670	0.672
1939	0.581	0.529	0.672	0.669	0.670	0.670	0.672
1940	0.588	0.542	0.716	0.750	0.731	0.731	0.716
1941	0.634	0.594	0.779	0.825	0.799	0.799	0.779
1942	0.668	0.632	0.815	0.859	0.835	0.835	0.815
1943	0.702	0.662	0.822	0.856	0.837	0.837	0.822
1944	0.713	0.675	0.825	0.860	0.841	0.841	0.825
1945	0.722	0.680	0.788	0.807	0.796	0.796	0.788
1946	0.762	0.721	0.765	0.763	0.764	0.764	0.765
1947	0.850	0.846	0.851	0.839	0.846	0.846	0.851
1948	0.955	0.958	0.939	0.918	0.930	0.930	0.939
1949	1.000	1.000	1.000	1.000	1.000	1.000	1.000
1950	1.051	1.065	1.085	1.091	1.084	1.084	
1951	1.188	1.217	1.212	1.141	1.169	1.169	
1952	1.265	1.277	1.208	1.072	1.184	1.184	
1953	1.313	1.313	1.236	1.163	1.212	1.212	
1954	1.309	1.304	1.242	1.217	1.240	1.240	
1955	1.336	1.356	1.294	1.271	1.277	1.277	
1956	1.399	1.433	1.369	1.346	1.359	1.359	
1957	1.451	1.462	1.436	1.387	1.433	1.433	
1958	1.474	1.470	1.484	1.441	1.485	1.485	
1959	1.515	1.524	1.505	1.432	1.485	1.485	
1960	1.557	1.563	1.552	1.507	1.526	1.526	

Year	Machinery and equipment						
	(7a) Food and beverages	(7b) Tobacco, rubber and leather products; non-ferrous metal products and electrical apparatus and supplies; non-metallic mineral products and products of petroleum and coal; miscellaneous manufacturing industries	(7c) Textile products	(7d) Clothing	(7e) Wood products	(7f) Paper products	(7g) Chemical products
1950	1.040	1.085	1.097	1.070	1.055	1.096	1.085
1951	1.093	1.212	1.122	1.142	1.107	1.160	1.212
1952	1.115	1.208	1.124	1.149	1.111	1.217	1.208
1953	1.153	1.236	1.160	1.171	1.139	1.240	1.236
1954	1.176	1.242	1.202	1.165	1.156	1.270	1.242
1955	1.208	1.294	1.241	1.196	1.190	1.309	1.294
1956	1.271	1.369	1.303	1.218	1.227	1.391	1.363
1957	1.337	1.436	1.324	1.214	1.269	1.469	1.435
1958	1.370	1.484	1.427	1.258	1.308	1.513	1.462
1959	1.399	1.505	1.479	1.268	1.315	1.551	1.487
1960	1.429	1.552	1.628	1.381	1.348	1.589	1.505

[1] All combined major groups excluding those in columns (4) (5) and (6) up to and including 1949.

Note: A blank indicates that it was not necessary to make any estimation for the purpose of the "perpetual inventory" method.

(d) Miscellaneous Data Problems

A number of data problems in addition to those already described require mention. As indicated, the available historical statistics dealing with gross fixed capital formation in Manufacturing establishments take no account of purchases and sales of existing capital goods.[34] Hence, the estimated stock data presented here are biassed to the extent that transactions in existing capital goods might, if recorded, produce substantially different movements over time in such estimates.

Analogous to this problem is that which arises when a unit (i.e., an establishment) which reports to the Capital Expenditures Survey changes the nature of its operations and therefore becomes reclassified by the DBS in a different industry. To continue the preparation of meaningful capital flow and stock estimates by industry, it is necessary to shift not only the capital expenditures but also the capital stock (both gross and net) of the reporting unit to the industry to which it has now been reclassified. With respect to capital expenditures, no major difficulties are involved except those which are related to the fact that the time series data on capital expenditures by industry will possess discontinuities owing to the changing classification of reporting units. Great difficulties confront the required shift of the stock data however.

In 1960, the DBS shifted the presentation of industry statistics (including capital expenditures) from the basis of the 1948 to the 1960 Standard Industrial Classification.[35] Not only was the classification of reporting units into industries changed (in some cases, substantially) but in 1961 the reporting unit for principal statistics of outputs and inputs in Manufacturing was changed from the activity to the establishment. This latter change will only negligibly affect the historical continuity of the data of capital expenditures by industry since these data were already on an establishment basis prior to 1961.

The reclassification of establishments among industries does, however, profoundly affect the historical continuity of the capital expenditures data as Section IV, Table 29, shows. For the combined Major Groups dealt with in this report, those which are most affected by the change in classification are the Iron and Steel Products and the combined Non-ferrous Metal Products and Electrical Apparatus and Supplies and Non-metallic Mineral Products and Products of Petroleum and Coal Major Groups. It was decided that some experimentation with the derived capital stock, Census of Manufacturers and *Taxation Statistics* data should be performed to see if reasonable adjustments could be made to the 1948 S.I.C. stock estimates to shift them to the 1960 S.I.C. basis for the years 1961 and on.

[34] With the exception of purchases of imported existing machinery and equipment.

[35] See DBS Catalogue No. 12-501 *Standard Industrial Classification Manual* (Ottawa: Queen's Printer; 1960).

TABLE 29. Capital Expenditures 1960, by Major Groups, Manufacturing on 1948 and 1960 Standard Industrial Classification Bases

Major groups	Construction		Machinery and equipment		Total	
	1948 S.I.C.	1960 S.I.C.	1948 S.I.C.	1960 S.I.C.	1948 S.I.C.	1960 S.I.C.
	millions of dollars					
1. Food and Beverages	52	53	98	99	150	152
2. Tobacco	2	2	5	5	7	7
3. Rubber	7	7	17	17	24	24
4. Leather	1	1	3	3	4	4
5. Textiles	6	6	21	21	27	27
6. Clothing and Knitting Mills	2	2	10	10	12	12
7. Wood	16	13	33	29	50	41
8. Furniture and Fixtures		3		5		8
9. Paper and Allied Industries	34	35	130	131	164	166
10. Printing, Publishing and Allied Industries	7	7	22	22	29	29
11. Primary Metal		51		143		194
12. Metal Fabricating		12		34		47
13. Machinery		8		15		23
14. Iron and Steel	47		150		197	
15. Non-ferrous Metals	25		45		70	
16. Transportation Equipment	16	16	32	32	49	48
17. Electrical Products	8	8	24	24	31	32
18. Non-metallic Mineral Products	17	16	34	34	51	49
19. Petroleum and Coal Products	71	52	8	8	80	60
20. Chemical and Chemical Products	36	35	74	72	110	107
21. Miscellaneous	6	7	12	14	19	21
22. Capital Items Charged to Operating Expenses			127	126	127	126
23. Total Manufacturing	355	335	846	843	1,201	1,177

Note: Furniture and Fixtures, Primary Metal, Metal Fabricating and Machinery Major Groups are additional Major Groups in the 1960 Standard Industrial Classification.

Source: Department of Trade and Commerce, *Private and Public Investment in Canada, Outlook 1962, p. 24.*

It is unfortunately the case that the Capital Expenditures data for 1961 and later years could not be prepared on the basis of both Standard Industrial Classifications. Work on preparing estimates of capital expenditures on the 1960 S.I.C. basis prior to 1960 is going forward and such overlapping data will prove helpful in making the adjustment.

It might be thought that the reported capital expenditures of those reporting units which were reclassified in 1960 could be removed from the historical industry data and separately treated so that in 1960 the various stock data could be reassembled to shift them to the new S.I.C. basis. In some cases, this will be feasible. For others, however, the problem is encountered that the capital expenditures of the reporting unit and the corresponding data from the Census of Manufacturers value of shipments were used in determining blow-up factors employed in deriving the three-digit industry and Major Group historical capital expenditures data. When such reporting units are removed from an industry and their blown-up capital expenditures recalculated on the basis of the reported capital expenditures for the remaining reporting units, the blown-up data will be different from what they were before. A large reassembling job would therefore be necessary, even if all the data were available, to recast historical industry capital expenditures data in terms of the 1960 S.I.C. As indicated, the DBS intends to do this for a few years prior to 1961. For purposes of shifting the stock estimates presented in this report to the 1960 S.I.C., however, the reassembling procedure would have to be carried back many years owing to the long "average economic lives" used in making the stock estimates.

The same or analogous problem arises in a quite different context. In 1949, Newfoundland entered Confederation and Canada's domestic stock of fixed capital was correspondingly increased by the domestic stock which existed in Newfoundland at that time. Historical data on capital formation by industry in Newfoundland prior to 1949 are extremely scarce. In Manufacturing, the proportion of total domestic capital formation which takes place in Newfoundland is extremely small. Consequently, in these estimates no attempt was made to adjust the stock estimates to account for Newfoundland's entry into Confederation. All additions to the stock since 1949 in Newfoundland have, of course, been included in these estimates. For other industries, however, such as Fishing, some adjustment will be required.

The basic need which all these and similar problems reveal is that periodic benchmark estimates, such as those being considered by the U.S. Wealth Inventory Planning Study,[36] are required in order to keep the "perpetual inventory" estimates of the stock of fixed capital by industry up to date. Such benchmark estimates, which would entail obtaining of information on the value and age of stocks of fixed capital goods by industry together with supplementary data such as estimated "average economic lives" of capital goods, would involve considerable expense. As Goldsmith has indicated,[37] the "perpetual inventory" estimates of capital stock by industry will stray from the "true" estimates and periodic benchmark revisions are therefore necessary. If the experimental estimates presented here are to be continued and improved, such periodic benchmarks - with all the preparatory work needed to implement them - will have to be carried out.

As indicated in Section III of this report, fixed capital goods are removed from the stock by eccentricities of Nature, and by acts of demolition and war. Such losses may or may not be treated as capital consumption allowances but certainly the stock estimates should be adjusted when they occur. Unfortunately, it has not proved possible to do this for the estimates presented here.

Data on claims paid out by fire and casualty insurance companies as reported by the Superintendent of Insurance are used in the Canadian National Accounts. Therein, they are essentially balancing entries designed to offset the losses or reduced profits recorded by the insurance companies. Uninsured losses are not recorded and the claims data do not represent "the replacement cost written down"[38] of the fixed capital goods destroyed. Moreover, the data from the Superintendent of Insurance are not available at the level of industrial detail required for this study.

The value of fire losses undergone by owners of fixed capital goods are also recorded by the Dominion Fire Commissioner in his annual *Reports*. The coverage therein is more complete, the industrial detail which can crudely be inferred from data on types of capital goods so destroyed is better and attempts to estimate replacement cost written down value of losses are made by officials of the various reporting provincial fire marshals. Also, the Fire Underwriters Investigation Bureau of the Canadian Fire Insurance Underwriters Association in Montreal has much of the data which would be needed to incorporate such data of losses into these estimates. It is hoped that, in the future, resources will become available so that these valuable sources of information on losses can be adequately canvassed and the body of required information built up.

The data needed by industry are: the type of capital goods destroyed; if possible, its estimated current replacement cost both new and written down and its original cost and date of addition to the stock. Such information, along with other data such as price indexes already to some extent available, would permit the satisfactory introduction of loss evaluations into the "perpetual inventory" method of estimating fixed capital flows and stocks by industry.

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[36] *Measuring the Nation's Wealth* (New York: Princeton University Press for the NBER, Inc., 1964).

[37] R.W. Goldsmith, *The National Wealth of the United States in the Post-War Period* (Princeton: Princeton University Press for the NBER, Inc., 1962), p. 14.

[38] T. Barna, "The replacement cost of fixed assets in British Manufacturing in 1955", *Journal of the Royal Statistical Society* Series A (General) Vol. 120 Part 1, (1957) pp. 1 - 36.

Users of these estimates must take into account the fact that it has not as yet been possible to take these capital losses into account when constructing them. Since Canada's domestic stock of capital has not suffered major destruction by irregular and uninsurable enemy action, it is doubtful if the trends shown by the estimates of fixed capital flows and stocks are seriously affected by the omission of capital losses due to fire and other natural causes. Their omission may lead to incorrect levels. However, as pointed out previously, the crudeness of the "life" data that were used probably imparts much more uncertainty about the level of the estimates than do omissions of capital losses.

The final point to be discussed in this section is the treatment afforded rented capital goods. Data on gross rents paid and received by establishments in Manufacturing are no longer obtained by the Census of Manufacturers but such evidence as can be obtained from *Taxation Statistics* suggests that the rental of fixed capital goods is a phenomenon of some, and growing, importance. An important question arises: to which industry's stock of capital should rented capital goods be assigned? If the appropriate information were available, should such capital goods be credited to the "owning" (i.e., the lessor) industry or to the "using" (i.e., the lessee) industry?

The data problems are difficult. Rental contracts range all the way from one-day car rentals to long-term lease arrangements. From contract to contract, the lessee may or may not be responsible for maintenance of the capital goods involved, insurance premiums, taxes, etc. In some long-term lease arrangements, the lessee is entitled, upon completion of the contract, to obtain legal ownership of the capital goods upon payment of a nominal sum to the lessor. In such cases, the gross rents paid by the lessee are, in effect, both operating and capital expenditures.[39]

At present, because capital expenditures are reported by the owner of the capital good, the present stock estimates are on a lessor industry basis. For purposes such as productivity measurement, some would argue that rented capital goods should be credited to the stock of the lessee industry.[40] For such purposes a good case for either approach can be made. The treatment of rent in the industrial distribution of income originating has not yet been satisfactorily determined.[41] Now that estimates of the capital input by industry are being attempted, it is important that more information be obtained and that an acceptable convention be agreed upon for the treatment of this problem of rent.

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[39] For a brief review of the discussion amongst professional accountants as to whether long-term lease arrangements should be set up as liabilities in the lessee's balance sheet, see "Long-term lease disclosure" in "Accounting Research", ed. D.H. Bonham, *The Canadian Chartered Accountant*, LXXXV, Nov. 1964, pp. 345-348.

[40] *Measuring the Nation's Wealth* (New York: Princeton University Press for the NBER, Inc., 1964).

[41] Indeed, the problem is treated differently in different parts of the Canadian social accounting framework. See DBS Catalogue No. 13-502 *National Accounts Income and Expenditure 1926-1956*, paragraphs 188-189, DBS Catalogue No. 13-513 *Supplement to the Inter-Industry Flow of Goods and Services, Canada, 1949*, pp. 8-9 and DBS Catalogue No. 61-505 *Indexes of Real Domestic Product by Industry of Origin 1935-1961* Sections 57 and 58.

SECTION V

An Evaluation of the Estimates and Conclusion

(a) An Evaluation of the Estimates

Part of the evaluation of the estimates presented in this report has, in effect, already been presented in Section IV. Particular attention was paid there to the validity of the estimates of current dollar gross fixed capital formation and price indexes used for deflation purposes. As was pointed out, the weakest data used by the DBS Fixed Capital Stocks Project were those relating to the average length of economic "life" of fixed capital goods used in Canadian Manufacturing. For this reason the estimates were prepared by using a range of average economic "lives" so that an appraisal could be made as to how different assumptions with respect to the "lives" of fixed capital goods would affect the levels, cyclical behaviour and trends in fixed capital flows and stocks.

In Section II of this report, evidence is presented to show that the cyclical behaviour and to a lesser extent, the trends in fixed capital flows and stocks (both at selected Major Group levels and for total Manufacturing) are, broadly speaking, unaltered when different "lives" are used. The levels are, of course, affected. It would thus be helpful if some further light could be shed upon what would appear to be the most appropriate set of economic "lives" of fixed capital goods used in Manufacturing.[1]

The chief difficulty which confronts the investigator in attempting to find the most appropriate economic "lives" (aside from the inherent difficulties associated with the concept itself) is that no independent set of such estimates exists.[2] As pointed out in Section IV, this is a vital requirement if improvement in such capital stock estimates as presented here is to be expected in the future.

However, a check on the "lives" used is possible if independent estimates of the current dollar stocks of capital goods exist. For Manufacturing in Canada, such estimates do not exist. In Agriculture, however, such independent estimates are obtainable from the Decennial Censuses. It has been possible to check the estimates of the stock of fixed capital—and average economic "lives" used—prepared by the DBS Fixed Capital Stocks Project for the Agriculture Industry, with the current dollar net stock estimates obtained from the Decennial Censuses.[3]

Estimates of the gross stock of fixed assets in terms of original cost by Major Groups in Manufacturing do exist, however, in the Department of National Revenue's *Taxation Statistics*. These estimates are used here as a crude check against the estimates prepared by the DBS Fixed Capital Stocks Project.

Before turning to the check so provided, it is useful to compare the range of "lives" used in preparing fixed capital flows and stocks estimates in Canadian Manufacturing with those used by investigators and researchers in U.S. Manufacturing. Section V, Table 1, compares "lives" used by Creamer and Stigler in the U.S.A.[4] with the ranges of "lives" used in this report. Section V, Table 2, compares the "lives" used by Hood and Scott and Lithwick with those used in this report.[5] In general, it is to be observed that Set I of the "lives" used in this report are longer than those used in the U.S.A. for machinery and equipment capital goods in Manufacturing. However, it should be remembered for each combined Major Group in Canada, capital items charged to operating expenses, with an as-

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[1] One of the uses of the current and constant dollar estimates of capital consumption allowances developed by this study is to replace the estimates of capital consumption allowances currently being used in the Canadian National Accounts so that more meaningful estimates of National Income and net fixed capital formation can be derived. It is shown in Section II, however, that the level of current dollar capital consumption allowances is altered when different "lives" are used and the question then arises as to which is the most appropriate set of "lives" to be used in deriving the desired net aggregates, though less meaning can be attached to the levels of National Income and net investment than to changes in them over time.

[2] Reference has already been made to such sources as the U.S. Treasury Department *Bulletin "F"* and *Depreciation Guidelines* and the 1949 study by the Canadian Department of Trade and Commerce. Limited data on the age structure of metal working production equipment for selected three-digit industries in Canadian Manufacturing industries are available from the trade publication *Canadian Machinery*. (cf., for example, *Canadian Machinery 1959: Directory and Catalogue*, Toronto: McLean Hunter Publishing Company Limited; 1959.

[3] The method used to check the estimates is outlined in E. Nevin, "The life of capital assets: an empirical approach", *Oxford Economic Papers*, XV, Nov. 1963, pp. 228-243.

[4] See D. Creamer, S.P. Dobrovolsky and I. Borenstein, *Capital in Manufacturing and Mining* (Princeton: Princeton University Press for the NBER, Inc., 1960) and G. Stigler, *Capital and Rates of Return in Manufacturing Industries* (Princeton: Princeton University Press for the NBER, Inc., 1963). Stigler uses Creamer's "lives" which Creamer derived from *Bulletin "F"*.

[5] Wm. C. Hood and A. Scott, *op. cit.* and N.H. Lithwick, *Economic Growth in Canada: A Quantitative Analysis*, Ph. D. Dissertation, submitted at Harvard University in 1963.

TABLE 1. Comparison of Average Economic Lives of Fixed Capital Goods Assumed by Researchers in the U.S.A. and by DBS Fixed Capital Stocks Project in Manufacturing Industries

U.S.A. Manufacturing Major Groups[1]	Average length of economic life of construction-type capital goods	Average length of economic life of machinery and equipment	Canadian Manufacturing Major Groups[2]	Average length of economic life of construction-type capital goods[3]					Average length of economic life of machinery and equipment[4]				
				Set I	Set II	Set III	Set IV	Set V	Set I	Set II	Set III	Set IV	Set V
	years			years									
1. Food and Kindred Products	50	15	Food and Beverages	50-55	50-55	60-66	40-44	40-44	29	29	35	23	17
2. Textiles and Products	50	22	Textile Products	45-50	50-55	54-60	36-40	36-40	26	26	31	21	16
			Clothing	30-—	50-—	36-—	24-—	24-—	21	21	25	17	13
3. Leather and Products	50	15	Tobacco, Rubber and Leather Products	50-55	50-55	60-66	40-44	40-44	15	15	18	12	9
4. Rubber Products	50	12											
5. Forest Products	50	20	Wood Products	30-35	50-55	36-42	24-28	24-28	26	26	31	21	16
6. Paper, Pulp and Products	50	18	Paper Products	50-55	50-55	60-66	40-44	40-44	22	22	26	18	13
7. Printing, Publishing and Allied Industries	50	14	Printing, Publishing and Allied Industries	50-55	50-55	60-66	40-44	40-44	30	30	36	24	18
8. Chemicals and Products	50	19	Chemical Products	50-55	50-55	60-66	40-44	40-44	22	22	26	18	13
9. Petroleum Refinery	50	15	Non-metallic Mineral Products and Products of Petroleum and Coal	35-40	50-55	42-48	28-32	28-32	26	26	31	21	16
10. Stone, Clay and Glass Products	50	15											
11. Iron and Steel and Products	50	17	Iron and Steel Products	45-50	50-55	54-60	36-40	36-40	21	21	25	17	13
12. Machinery excluding Transportation Equipment	50	18											
13. Non-ferrous Metals and Products	50	22	Non-ferrous Metal Products and Electrical Apparatus and Supplies	40-45	50-55	48-54	32-36	32-36	22	22	26	18	13
14. Transportation Equipment	50	15	Transportation Equipment	40-45	50-55	48-54	32-36	32-36	30	30	36	24	18
15 Miscellaneous	50	18	Miscellaneous Manufacturing Industries	30-35	50-55	36-42	24-28	24-28	13	13	16	10	8

[1] These average economic lives of fixed capital goods were derived from Bulletin "F" and used by D. Creamer, S.P. Dobrovolsky and I. Borenstein, *Capital in Manufacturing and Mining* (Princeton: Princeton University Press for the NBER, Inc., 1960), p. 223. The same lives (except 40 instead of 50 years for construction-type capital goods) were used by G. Stigler, *Capital and Rates of Return in Manufacturing Industries* (Princeton: Princeton University Press for the NBER, Inc., 1963), p. 121.

[2] Thirteen combined Major Groups in Manufacturing, DBS 1948 Standard Industrial Classification. The U.S. and Canadian Major Groups are not, of course, exactly comparable.

[3] (a) In the five sets of lives of construction-type capital goods given, the first relates to building construction-types while the second relates to engineering construction-types.
(b) In Set II, the respective lives were set at 50 and 55 for all combined major groups.
(c) For the Clothing Major Group, expenditures on engineering construction-type capital goods are negligible.

[4] Excludes capital items charged to operating expenses. See Section IV, Tables 25 and 26, of this report.

TABLE 2. Comparison of Hood-Scott, Lithwick[1] and DBS Average Economic Lives of Fixed Capital Goods in Manufacturing Industries

Manufacturing Major Groups	Average length of economic life of construction-type capital goods						Average length of economic life of machinery and equipment						Average length of economic life of capital items charged to operating expenses					
	Hood-Scott[2]	DBS[3]					Hood-Scott	DBS					Hood-Scott	DBS				
		Set I	Set II	Set III	Set IV	Set V		Set I	Set II	Set III	Set IV	Set V		Set I	Set II	Set III	Set IV	Set V
	years																	
Food and Beverages	50-50	50-55	50-55	60-66	40-44	40-44	18-14	29	29	35	23	17	16-16	5	5	7	3	3
Tobacco, Rubber and Leather Products	-50	50-55	50-55	60-66	40-44	40-44	-16	15	15	18	12	9	16-16	5	5	7	3	3
Textile Products	-50	45-50	50-55	54-60	36-40	36-40	-21	26	26	31	21	16	16-16	5	5	7	3	3
Clothing	-50	30-–	50-–	36-–	24-–	24-–	-16	21	21	25	17	13	16-16	5	5	7	3	3
Wood Products	35-35	30-35	50-55	36-42	24-28	24-28	18-18	26	26	31	21	16	16-16	5	5	7	3	3
Paper Products	50-50	50-55	50-55	60-66	40-44	40-44	21-21	22	22	26	18	13	16-16	5	5	7	3	3
Printing, Publishing and Allied Industries	-50	50-55	50-55	60-66	40-44	40-44	-17	30	30	36	24	18	16-16	5	5	7	3	3
Iron and Steel Products	-50	45-50	50-55	54-60	36-40	36-40	-16[4]	21	21	25	17	13	16-16	5	5	7	3	3
Transportation Equipment	-50	40-45	50-55	48-54	32-36	32-36	[5]	30	30	36	24	18	16-16	5	5	7	3	3
Non-ferrous Metal Products and Electrical Apparatus and Supplies	50-50	40-45	50-55	48-54	32-36	32-36	18-20	22	22	26	18	13	16-16	5	5	7	3	3
Non-metallic Mineral Products and Products of Petroleum and Coal	50-50	35-40	50-55	42-48	28-32	28-32	23-18	26	26	31	21	16	16-16	5	5	7	3	3
Chemical Products	50-50	50-55	50-55	60-66	40-44	40-44	15-20	22	22	26	18	13	16-16	5	5	7	3	3
Miscellaneous Manufacturing Industries	-50	30-35	50-55	36-42	24-28	24-28	-15	13	13	16	10	8	16-16	5	5	7	3	3

[1] Lithwick's estimates are for total Manufacturing. For construction-type capital goods, an economic life of 40 years was used while for machinery and equipment (including capital items charged to operating expenses), 18 years was used. cf., N.H.Lithwick, *op. cit.*, p. 172. His "life" estimates were those derived by Hood and Scott by trial cumulation procedures. cf., Wm. C. Hood and A. Scott, *op. cit.* p. 479.

[2] The Hood-Scott "lives" are from *Output, Labour and Capital in the Canadian Economy*, Chap. 6, Appendix C, pp. 474 - 478. The first figure relates to the estimated primary part, and the second to the estimated secondary part of the Major Group.

[3] See Section V, Table 1, footnote 3.

[4] Decomposition of Major Group by Hood and Scott. Their "lives" for machinery and equipment by sub-groups were:
- Agricultural implements 22
- Machine industry (including machine shops) 24
- Primary iron and steel 15
- All other 22

[5] Decomposition of Major Group by Hood and Scott. Their "lives" for machinery and equipment by sub-groups were:
- Motor vehicles and parts 11
- Railroad rolling stock 25
- Shipbuilding 23
- Aircraft and all other 15

sumed "life" of five years, can be included in the estimates of the net fixed capital formation and stocks of capital.[6]

The assumed "life" of machinery and equipment in Set V of the assumed "lives" used in this report do not fall below those used by Creamer and Stigler for only the following combined Major Groups: Food and Beverages; Printing, Publishing and Allied Industries; Non-metallic Mineral Products and Products of Petroleum and Coal; and Transportation Equipment.

The lack of data prevents any firm defence of the "lives" used in this report. It is nevertheless difficult to reconcile the short "lives" assumed in Set V with the data used to derive those in Set I.[7] While it would appear that different "lives" do not substantially affect the cyclical behaviour of the derived estimates of fixed capital flows and stocks, the different levels of capital flows and stocks that will result suggests that comparison of levels of such estimates between Canadian and U.S. Manufacturing industries should be performed with considerable caré.

No great differences exist amongst the "lives" used by Hood and Scott and Lithwick and those estimates found in this report save with respect to those for "capital items charged to operating expenses".

[6] The inclusion of "capital items charged to operating expenses" in machinery and equipment has the following effect on the derived average **age** of machinery and equipment.

Estimated Average Age of Machinery and Equipment, Mid-year 1960

	Machinery and equipment	Capital items charged to operating expenses	Total machinery and equipment
Food and Beverages	9.5	2.4	9.1
Tobacco, Rubber and Leather Products	6.9	2.5	6.6
Textile Products	11.2	2.7	10.9
Clothing	8.9	2.4	8.7
Wood Products	8.6	2.6	8.3
Paper Products	7.1	2.7	6.8
Printing, Publishing and Allied Industries	10.5	2.4	10.2
Iron and Steel Products	8.1	2.4	7.8
Transportation Equipment	9.9	2.6	9.5
Non-ferrous Metal Products and Electrical Apparatus and Supplies	9.9	2.6	9.5
Non-metallic Mineral Products and Products of Petroleum and Coal	7.6	2.6	7.3
Chemical Products	6.9	2.5	6.7
Miscellaneous Manufacturing Industries	5.6	2.3	5.3

Average age estimates based on formula $L \frac{K^{G}m - K^{N}m}{K^{G}m}$,

Where L represents "lives" assumed in Set I, $K^{G}m$ and $K^{N}m$ are mid-year constant dollar gross and net stock estimates based on Set I "lives".

[7] See Section IV – (c) of this report.

To provide a crude check on the various sets of "lives" used in this report, the fixed capital flows and stocks were also estimated in terms of what has been called original cost dollars.[8] It is these estimates that are compared against gross fixed assets by Major Groups in Manufacturing for fully tabulated profit and loss incorporated companies in *Taxation Statistics*.

Such a comparison is imperfect for a number of reasons:

(1) The data on gross fixed capital formation which underlie the DBS Fixed Capital Stocks Project estimates are measures of capital formation by **establishment** by industry while *Taxation Statistics* refer to unconsolidated incorporated legal entities by industry. If multi-establishment corporations in Manufacturing had all their establishments within one Major Group this problem of the different statistical reporting units would not cause concern. However, some corporations are legal entities which are composed of many establishments in different Major Groups, and in such cases, *Taxation Statistics* will allocate the gross fixed assets to one Major Group while the DBS Fixed Capital Stocks Project estimates will be assigned to the several different Major Groups in which the establishments are located.

(2) The DBS Fixed Capital Stocks Project estimates include the capital flows and stocks associated with unincorporated business enterprises in Manufacturing whereas these are not included in the *Taxation Statistics* reproduced for comparison here. All other things being equal, the DBS Fixed Capital Stocks Project estimates should therefore be higher than the *Taxation Statistics* data. However, the Manufacturing sector is largely an incorporated one, and the inclusion of capital flows and stocks relating to unincorporated business enterprises in the estimates presented here and their exclusion from *Taxation Statistics* should not invalidate the comparison being attempted.

(3) To the extent that, from time to time, corporations in Manufacturing revalue their fixed assets, then, in a period of rising capital goods prices, all other things being equal, the gross fixed assets data from *Taxation Statistics* will exceed the original cost dollar gross stock data presented here because no revaluations owing to changes in capital goods prices are incorporated into the latter estimates. It is not possible to know the extent of the potential bias on this account.

[8] See Section I of this report for a description of such flow and stock evaluations.

(4) Losses due to eccentricities of Nature are, of course, taken into account in the *Taxation Statistics* but not in the DBS Fixed Capital Stocks Project estimates so that, once again, other things being equal, the latter stock estimates would tend to be greater than the *Taxation Statistics* estimates.

(5) A multi-establishment corporation should be classified in that three-digit or Major Group industry in which the largest part of its value added originates. The classification by Major Group of corporations by the Department of National Revenue has not always proceeded this way and some doubts therefore arise about the consistency with which corporations have been classified by industry over time in *Taxation Statistics*.

(6) The *Taxation Statistics* data refer to "fully tabulated" companies and for purposes of this comparative check on average economic "lives" of fixed capital goods, the relevant omission from the Manufacturing sector would appear to be Crown Corporations, inactive companies and those companies filing incomplete returns.[9] For the Taxation year 1959, there were 16,329 fully tabulated corporations in Manufacturing compared to a total of 16,513 active taxable companies (which include fully tabulated companies, companies filing incomplete returns and personal corporations). Thus, the gross fixed assets for fully tabulated companies will, to a very limited extent, be slightly less than the gross stock estimates at original cost dollars included in this report.

(7) Companies will show fixed assets at the end of their fiscal years which will not correspond with end of calendar years. The taxation calendar year data in *Taxation Statistics* relates to companies whose fiscal year ends in that calendar year. Thus, if a company's fiscal year ends on January 1, 1959, its fixed asset data would be included in the fully tabulated companies data for the taxation calendar year 1959. The bulk of companies' fiscal years falls near the end of the calendar year and the comparative tables presented below match taxation year gross fixed assets data with mid-year and end-year gross stock estimates in original cost dollars.

(8) The 1948 DBS Standard Industrial Classification was not adopted in *Taxation Statistics* until the taxation year 1953. Prior to that, the Department of Labour's Standard Industrial Classification had been used. For taxation years 1948 to 1953, the three-digit information in *Taxation Statistics* was reclassified on the basis of the 1948 DBS Standard Industrial Classification but some discrepancies between the two series (i.e., 1948 to 1952 and 1953 to 1959) must still exist.

(9) *Taxation Statistics* data were shifted to the 1960 DBS Standard Industrial Classification for the taxation year 1960 and consequently, the data for that year were excluded from these comparisons.

(10) Prior to the taxation year 1948, gross fixed assets for only fully tabulated profit companies at the Major Group level in Manufacturing were reported in *Taxation Statistics*. Crude adjustment ratios to account for loss companies were worked out but it was decided not to carry the *Taxation Statistics* estimates back beyond 1948 since it was doubted that the comparisons would be thereby greatly improved.

(11) The gross stocks of capital items charged to operating expenses prepared by the DBS Fixed Capital Stocks Project were not, of course, included in the estimates to be compared with *Taxation Statistics*.

With all these qualifications in mind, the gross fixed assets for fully tabulated profit and loss companies by Major Groups in Manufacturing from *Taxation Statistics* were compared with the gross fixed capital stock at original cost dollars (both mid-year and end-year and excluding capital items charged to operating expenses) emanating from the DBS Fixed Capital Stocks Project for the taxation calendar years 1948 to 1959. The data are given in Section V, Table 3, and are partially reproduced on Charts 1 to 1 (m) of Section V. Under the assumptions outlined, then, if the "lives" adopted by the DBS Fixed Capital Stocks Project were too long in relation to the "true lives" as revealed by the *Taxation Statistics* data, the DBS Fixed Capital Stocks Project gross stock estimates would lie above the gross fixed assets data from *Taxation Statistics*, since capital goods would be retained in the former estimates for a longer time than in the latter; and vice versa.

It would appear that the "lives" adopted by the DBS Fixed Capital Stocks Project **may** be too long for the following Major Groups: Food and Beverages; Textile Products; Clothing; Printing, Publishing and Allied Industries; Transportation Equipment and Chemical Products. On the other hand, the assumed "lives" **may** be too short for Paper Products; Iron and Steel Products; Non-ferrous Metal Products and Electrical Apparatus and Supplies; and Non-metallic Mineral Products and Products of Petroleum and Coal. One cannot, however, make such comparisons with any certainty since the two sets of data are not comparable in many respects.

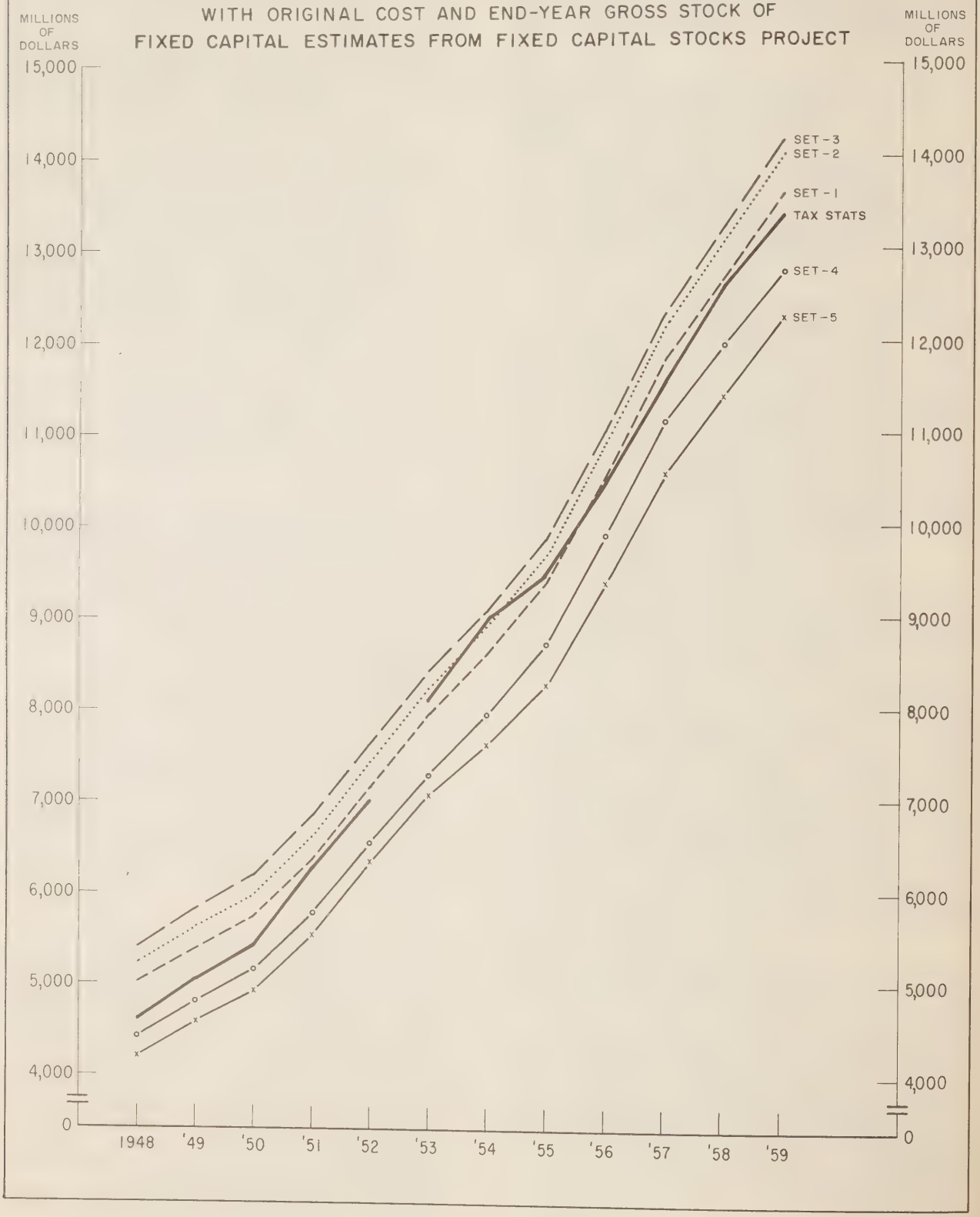
[9] See Department of National Revenue, *Taxation Statistics 1961*, pp. 98-99.

SECTION - V

Chart - I

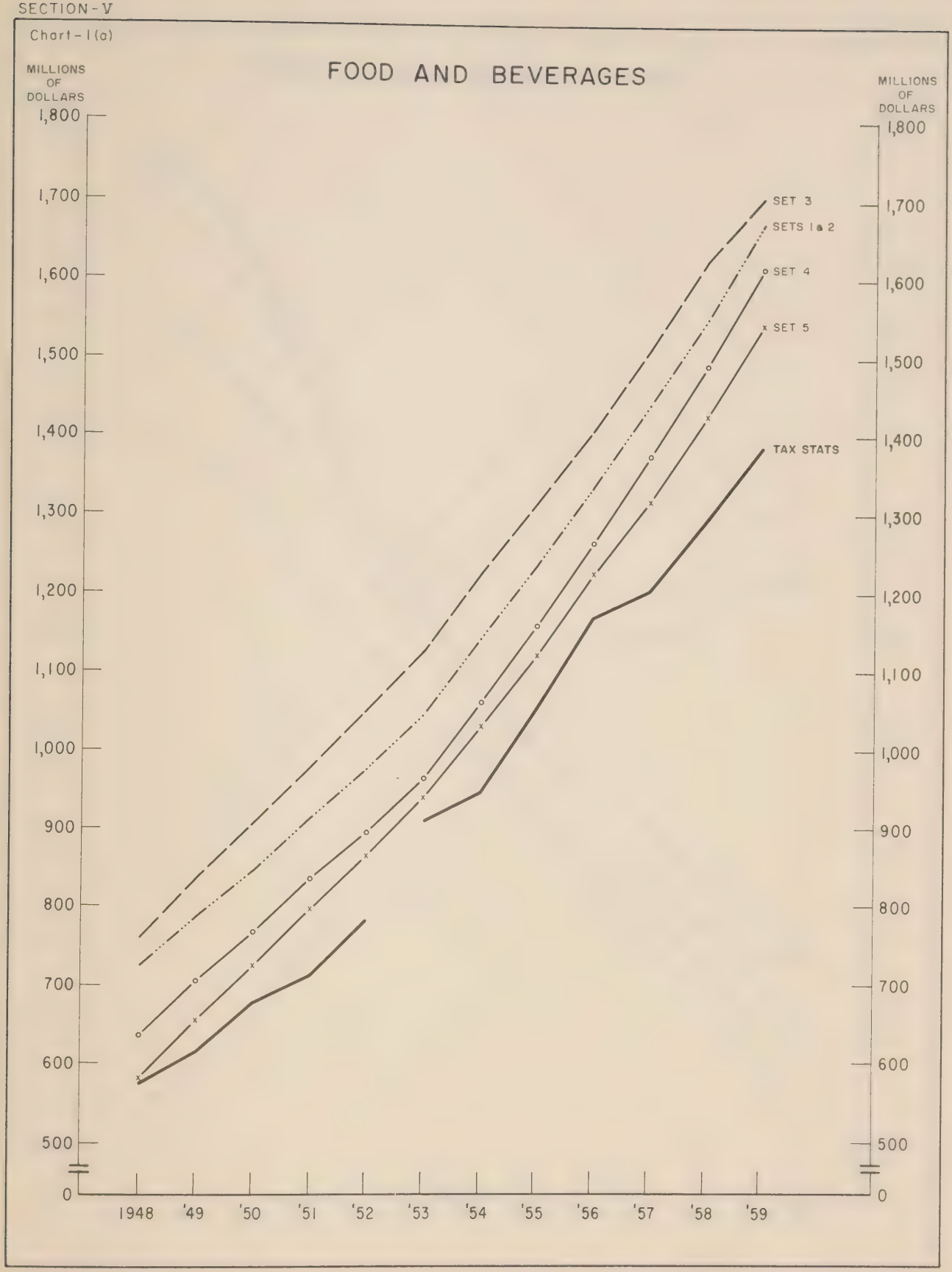
TOTAL MANUFACTURING

COMPARISON OF GROSS FIXED ASSETS FROM TAXATION STATISTICS WITH ORIGINAL COST AND END-YEAR GROSS STOCK OF FIXED CAPITAL ESTIMATES FROM FIXED CAPITAL STOCKS PROJECT



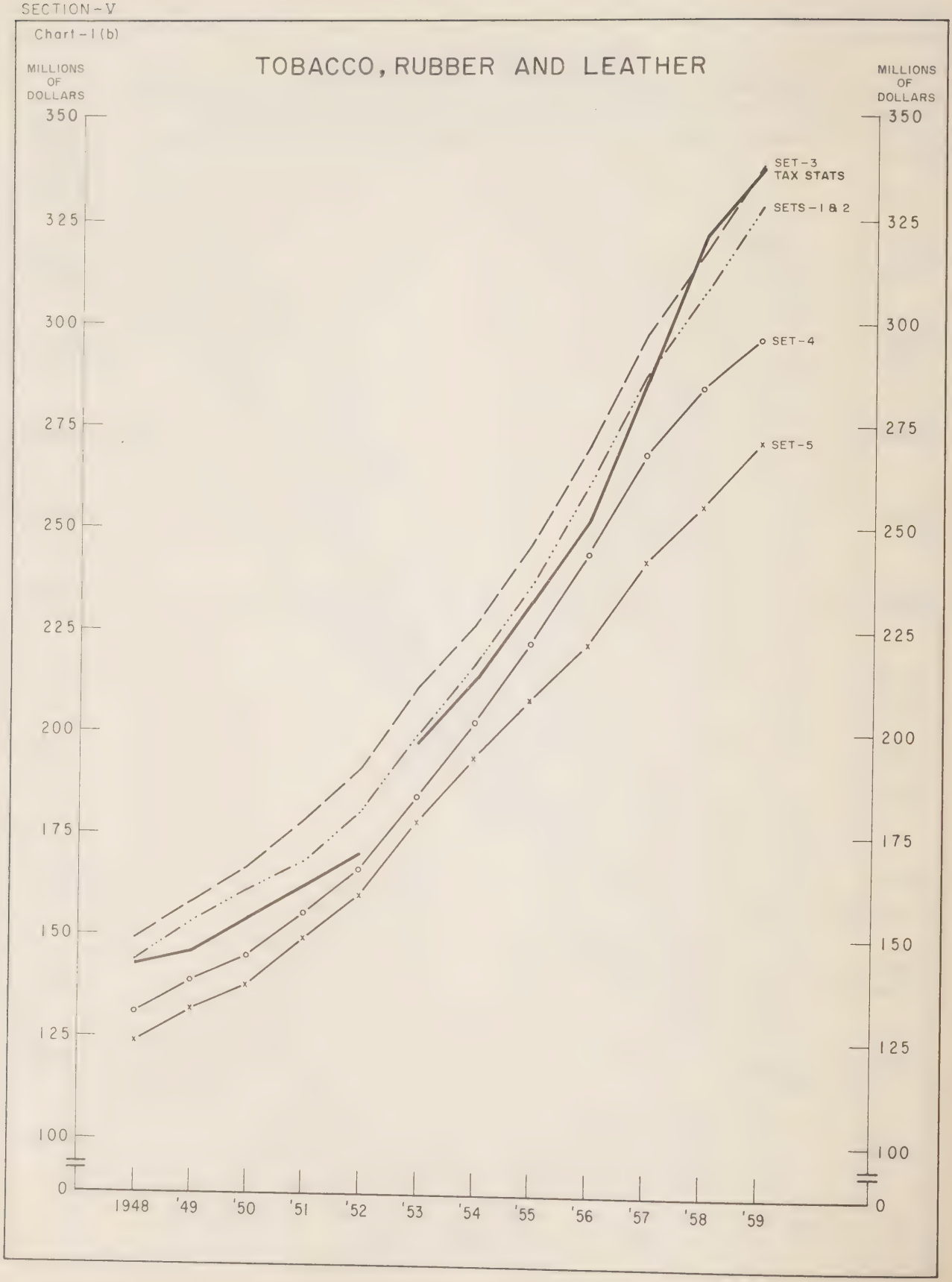
SECTION - V

Chart - I (a)



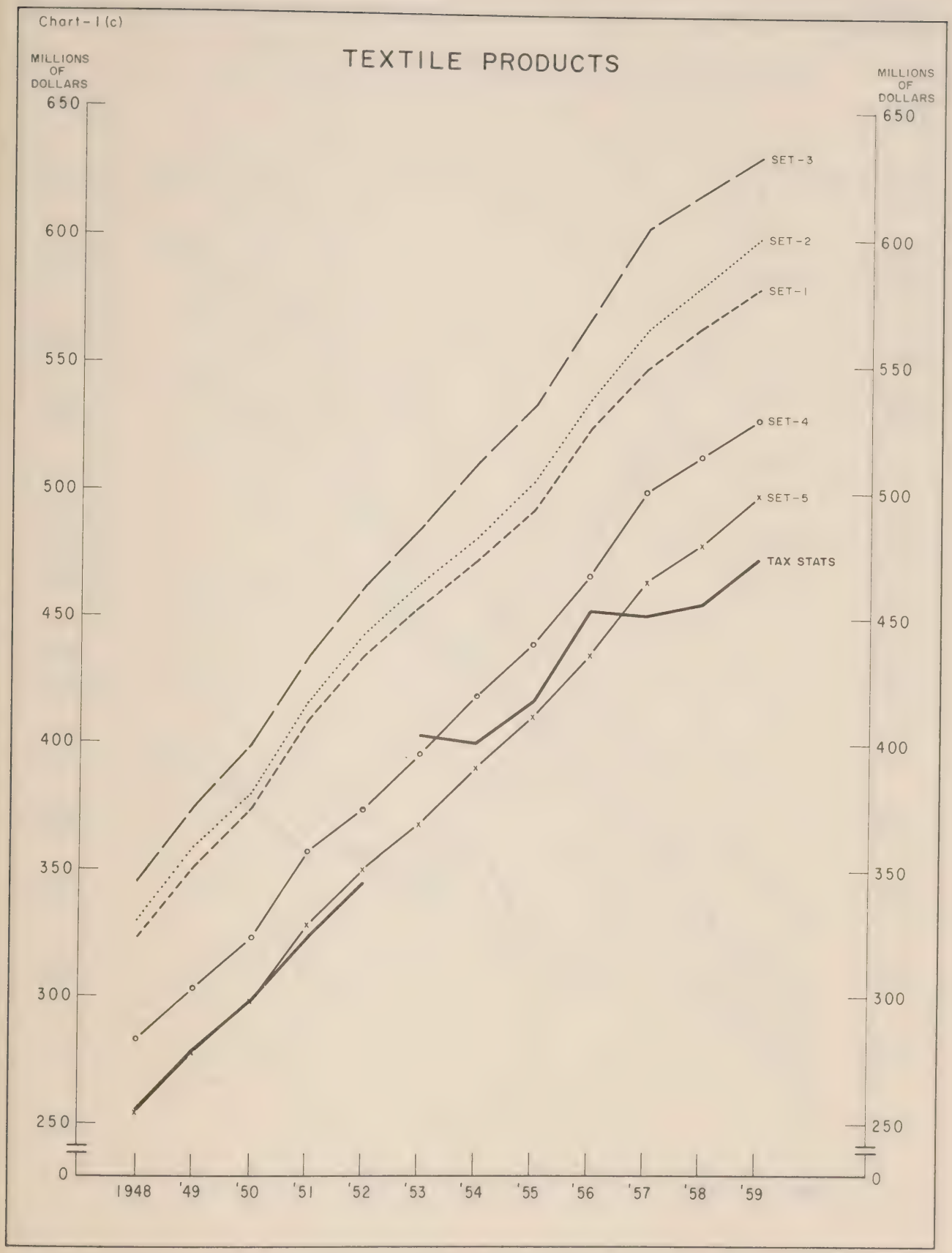
SECTION – V

Chart – I (b)



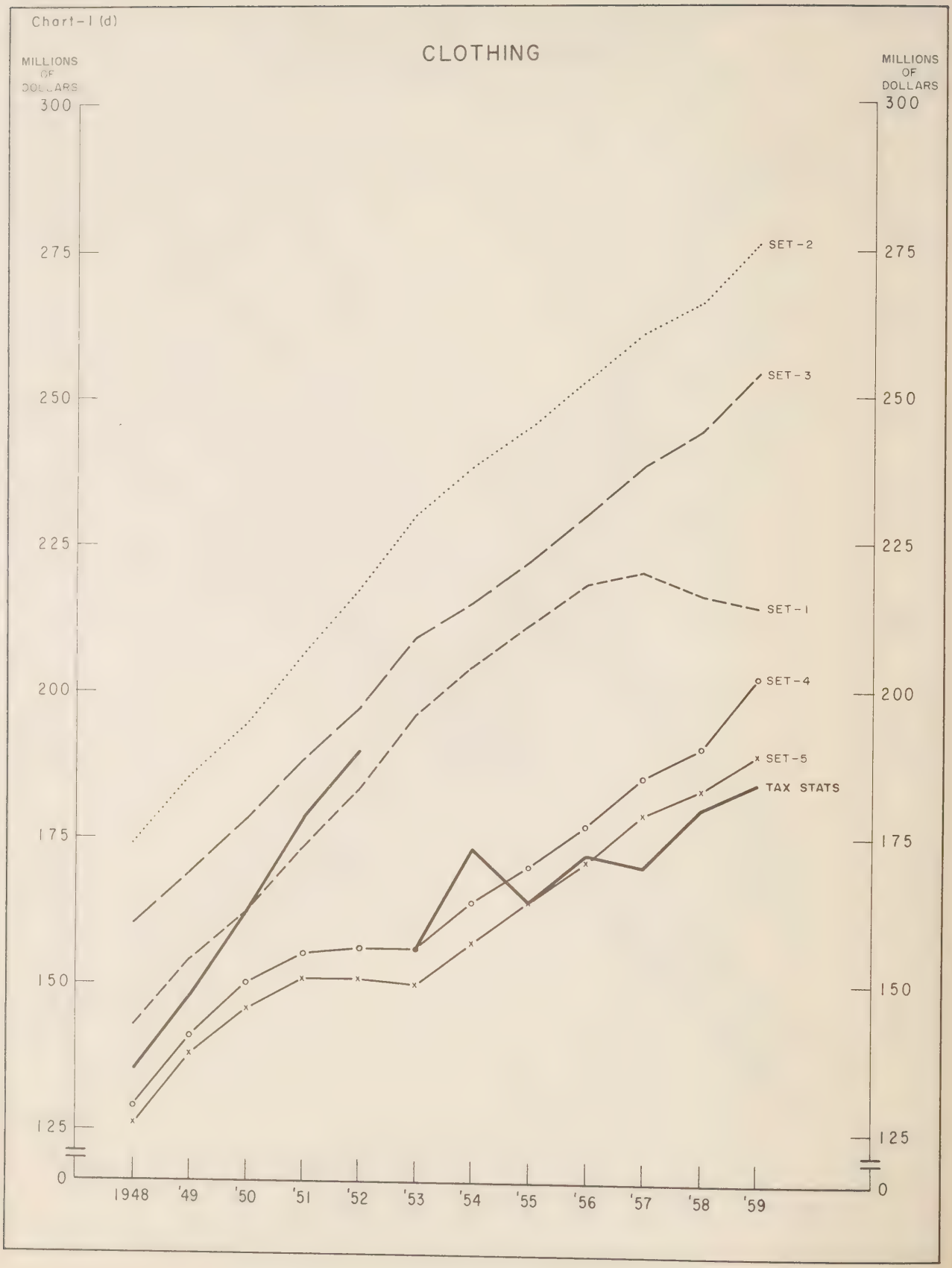
SECTION-V

Chart-I (c)



SECTION-V

Chart-I (d)

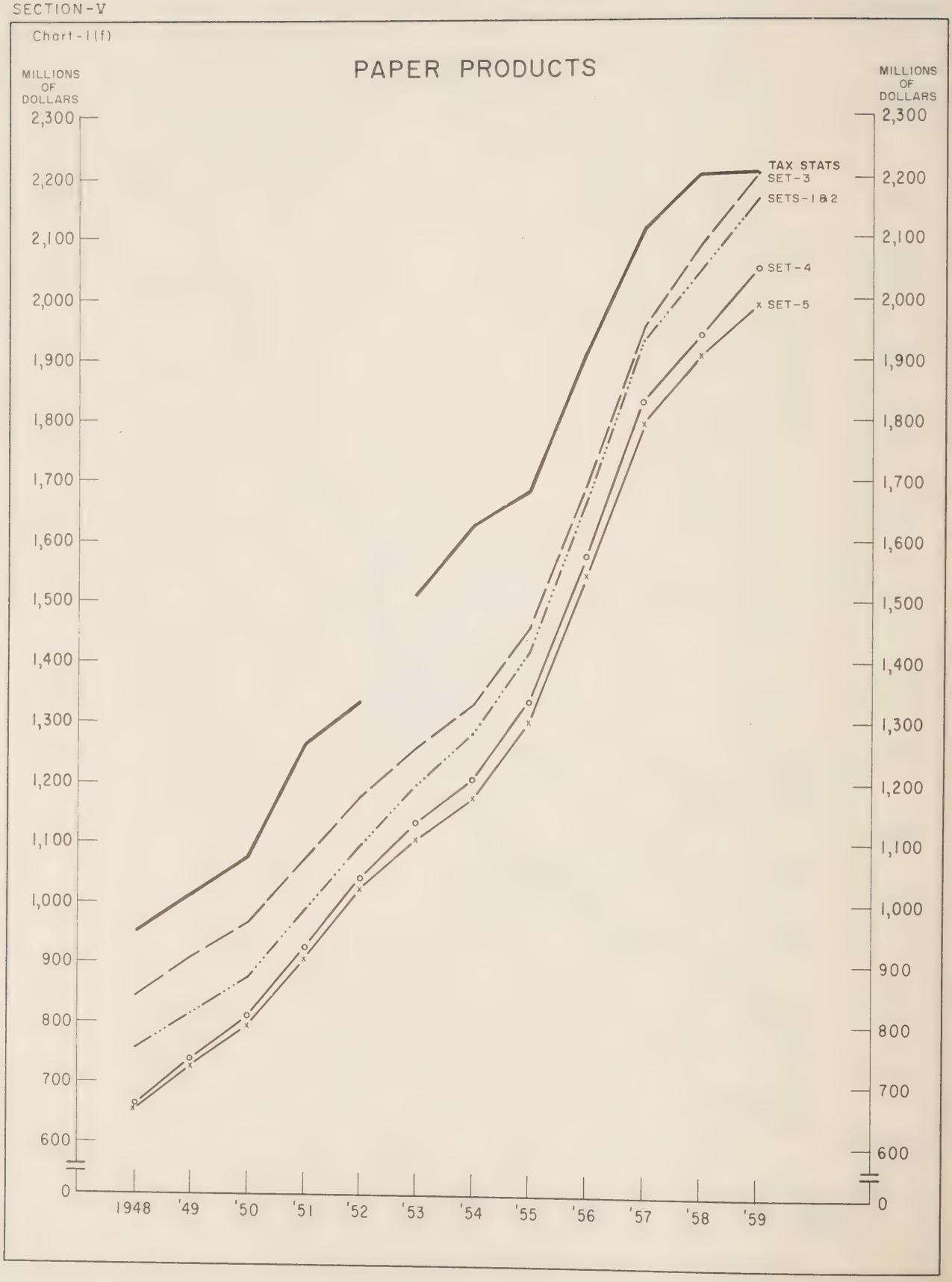


SECTION-V

Chart-I(e)

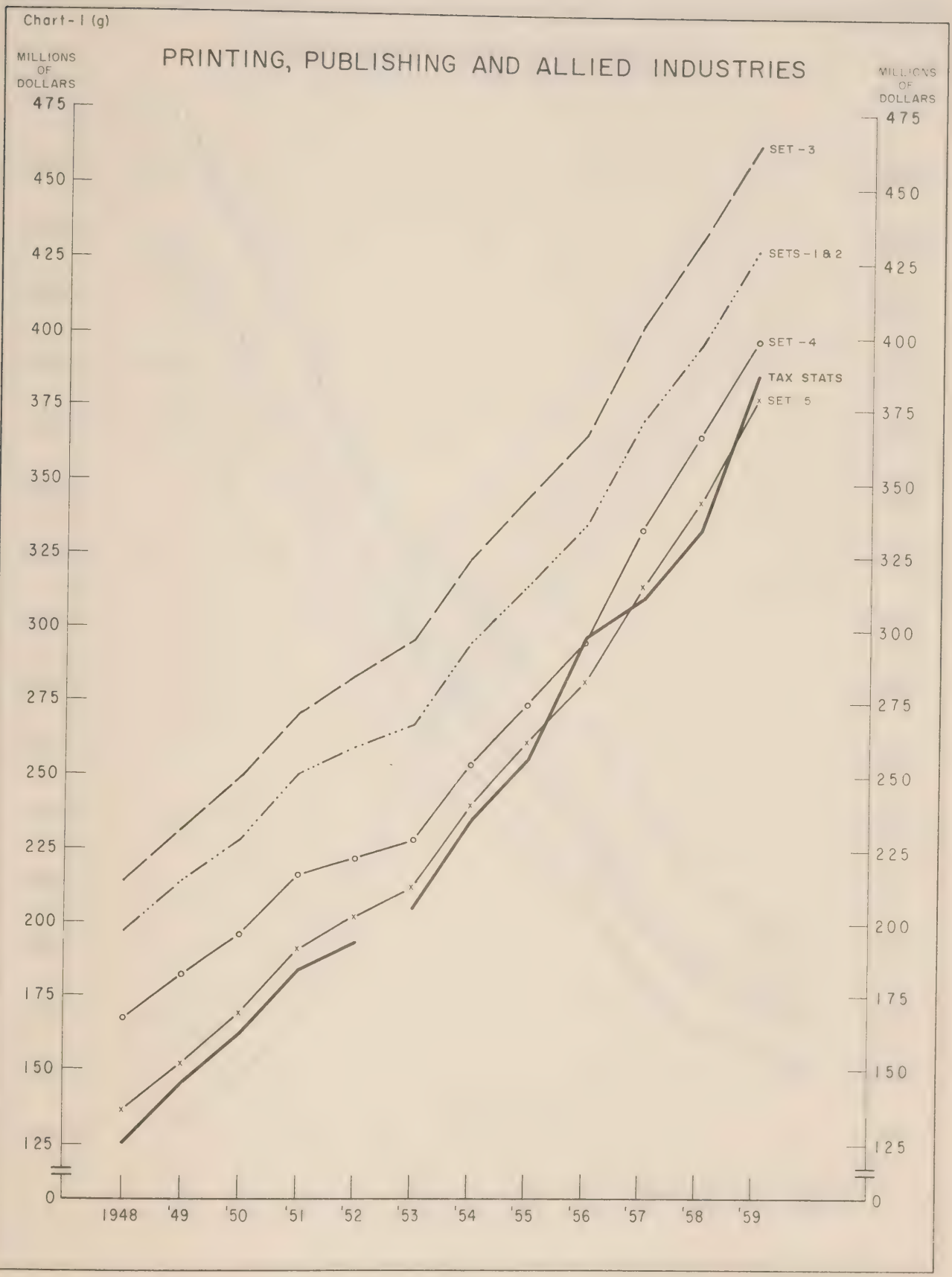
SECTION-V

Chart-1(f)



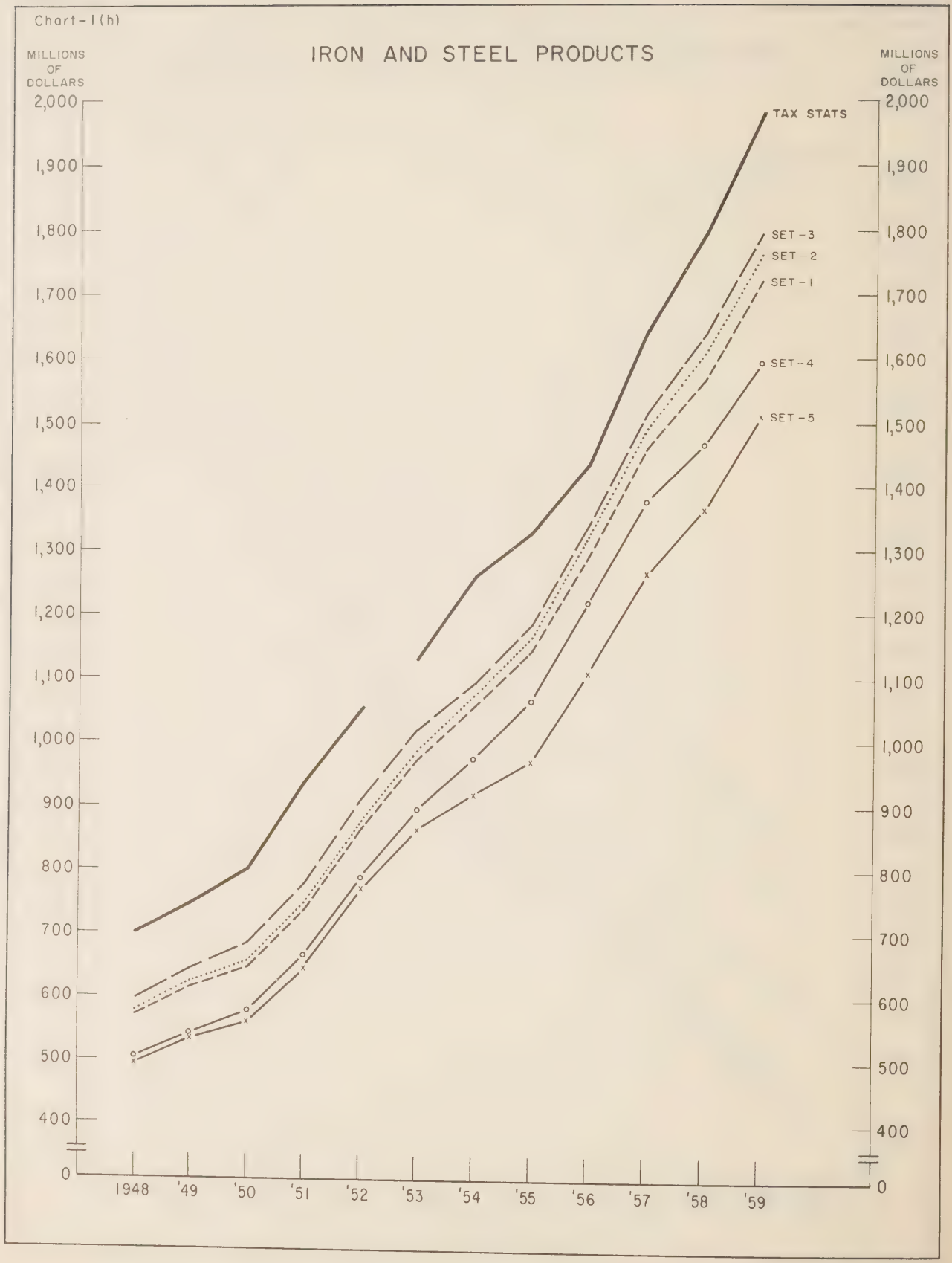
SECTION-V

Chart-I (g)



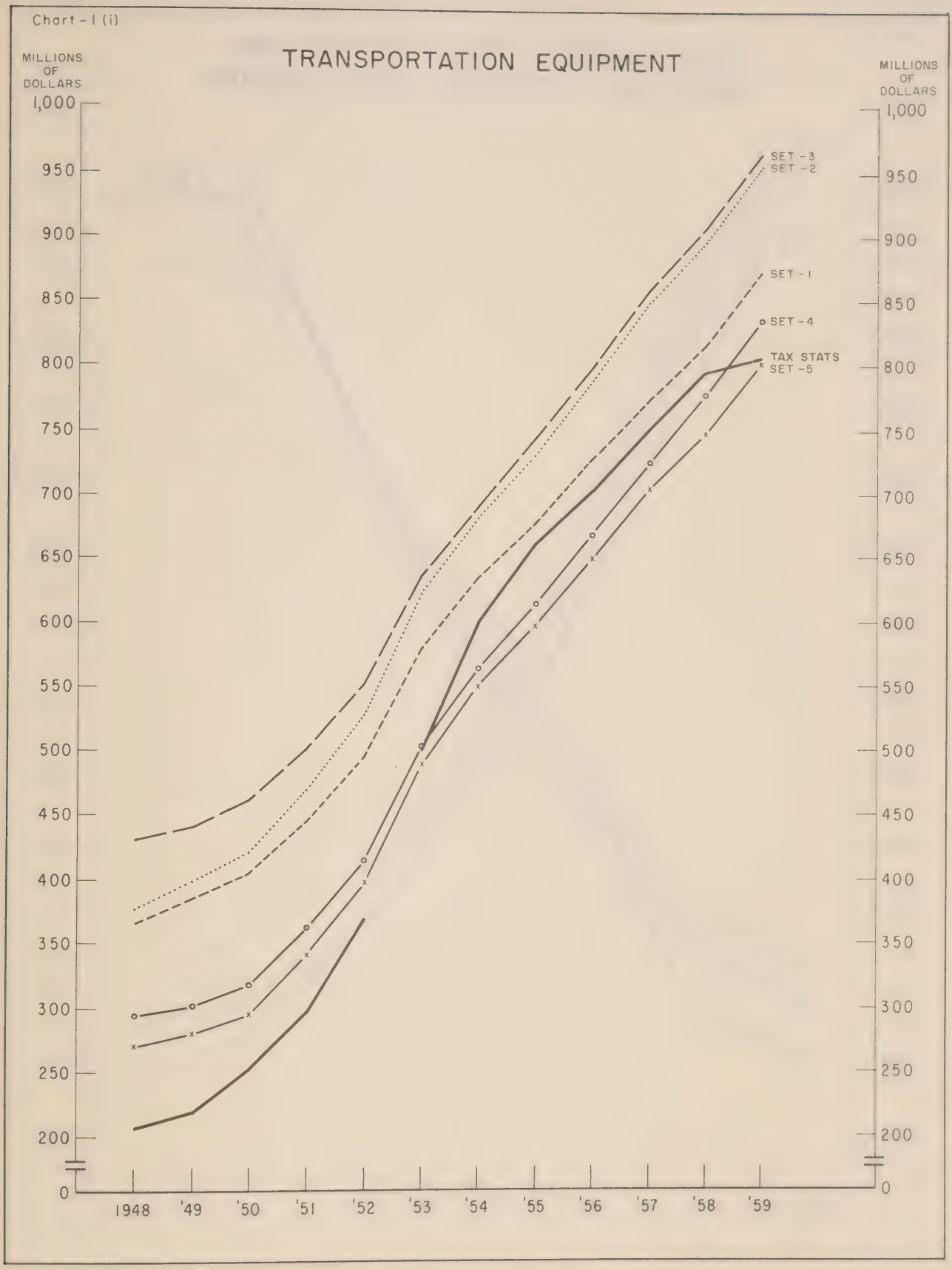
SECTION-V

Chart-I(h)



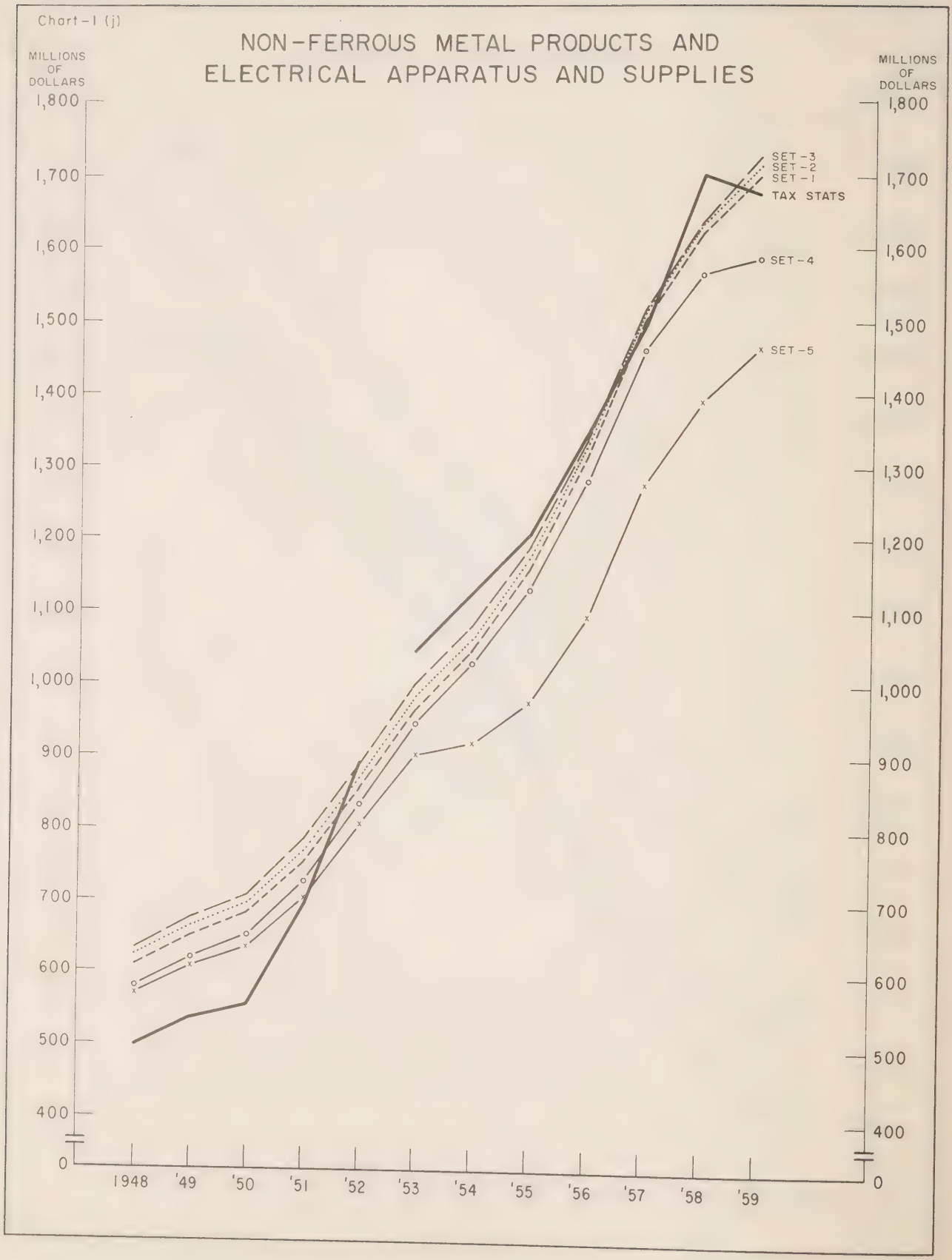
SECTION-V

Chart - I (i)



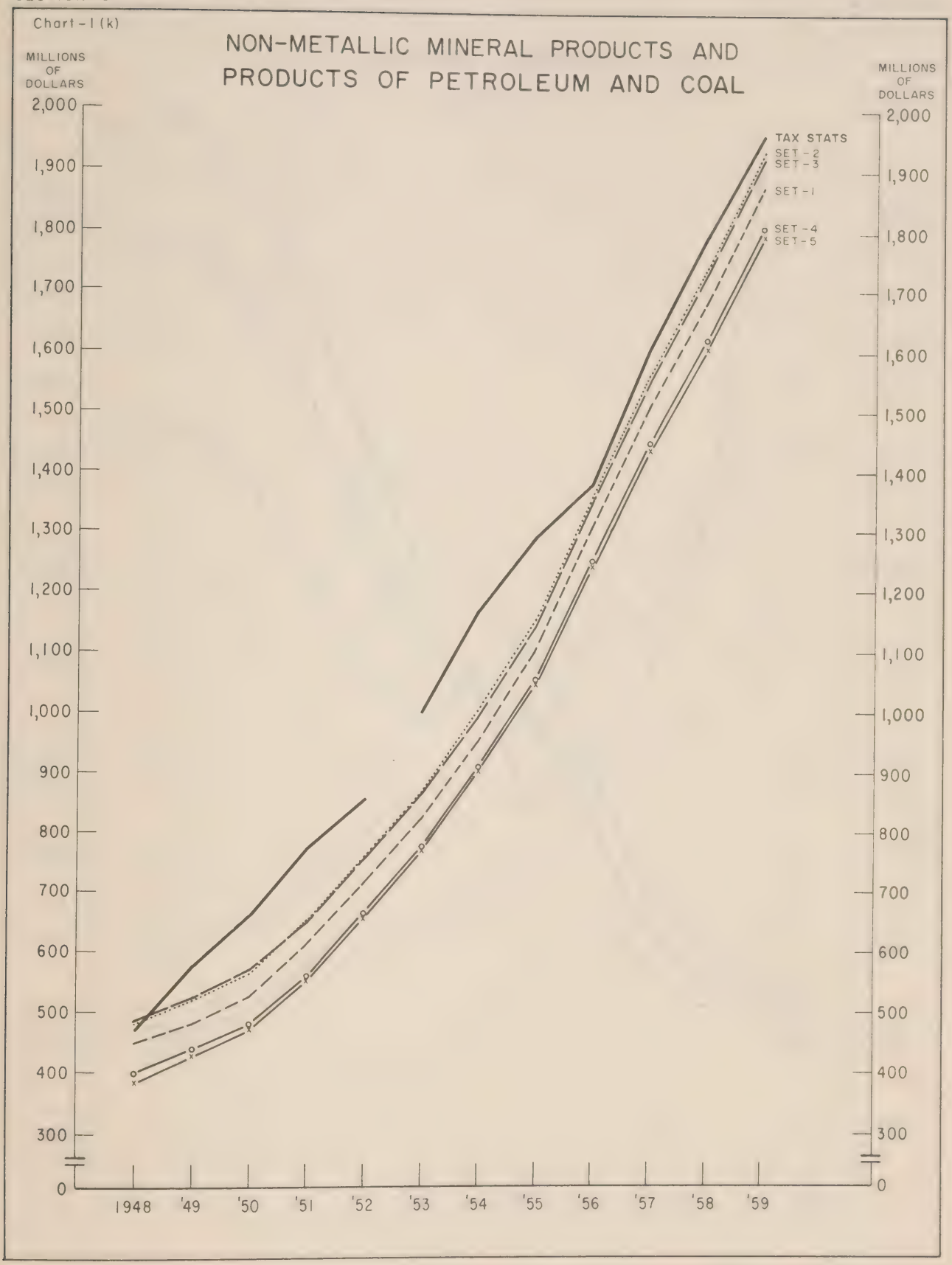
SECTION-V

Chart-I (j)



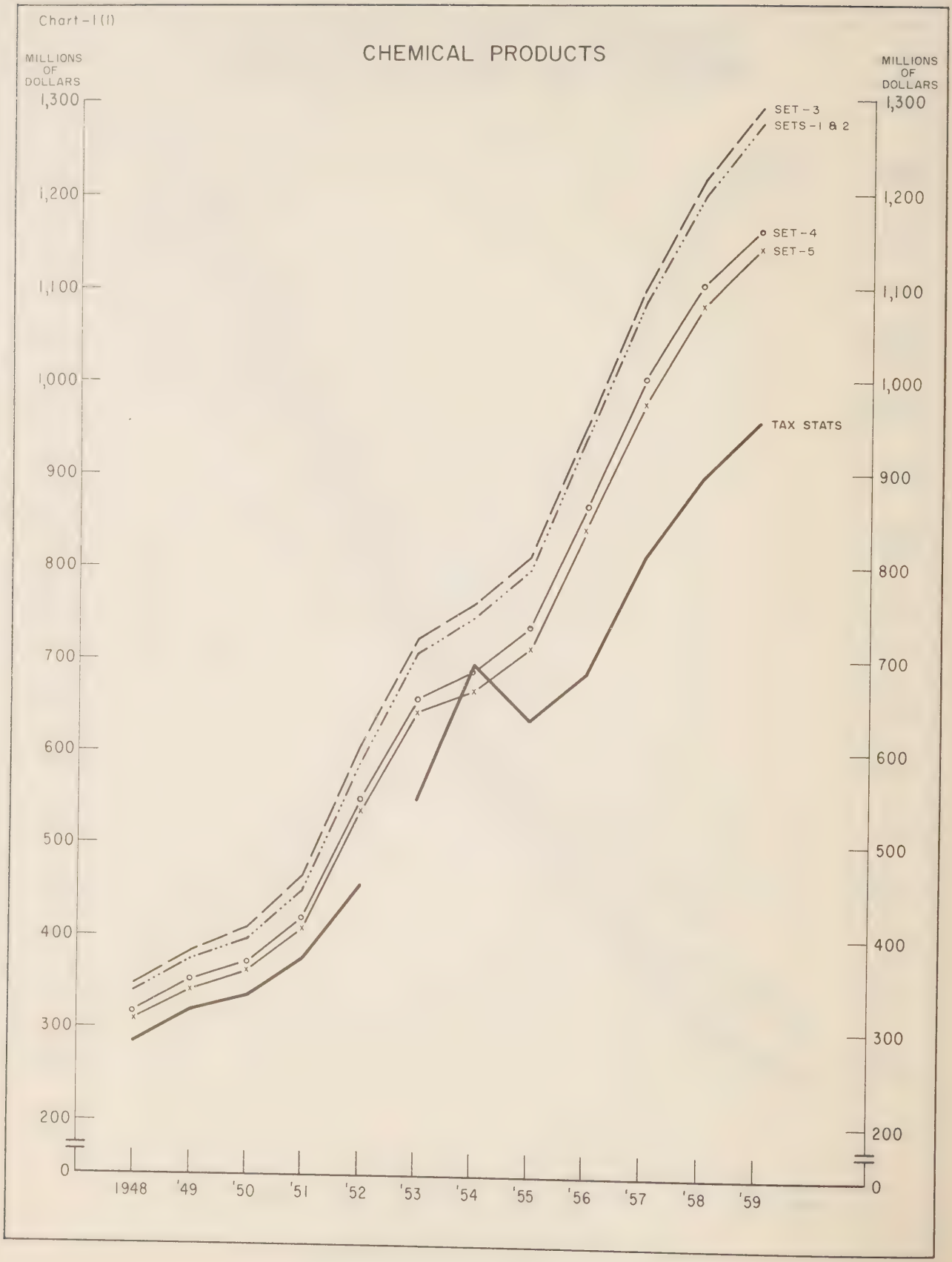
SECTION - V

Chart - I (k)



SECTION-V

Chart-I (1)



SECTION-V

Chart-I(m)

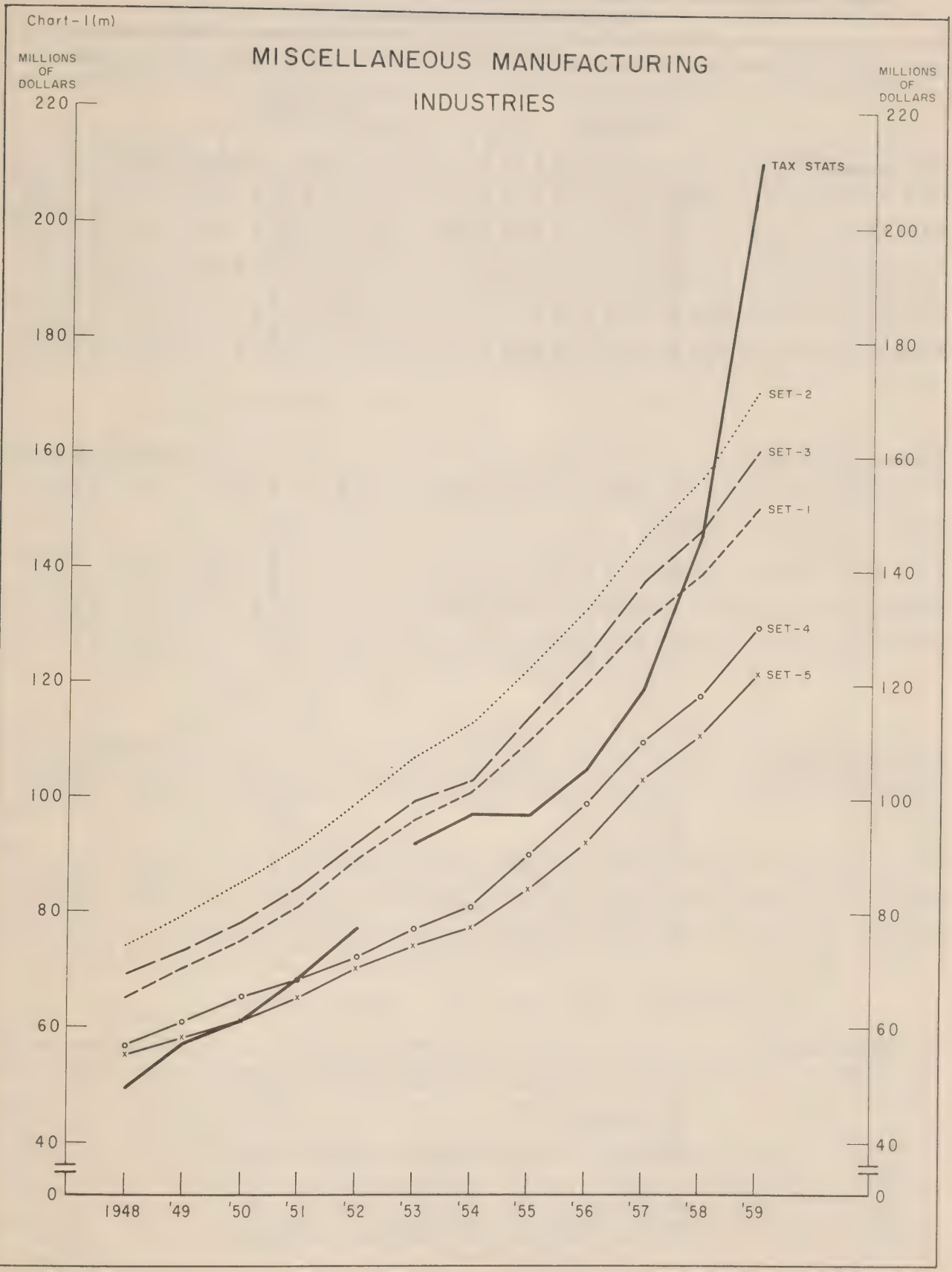


TABLE 3. Comparison Between Taxation Statistics and DBS Fixed Capital Stocks Project Gross Stock Estimates

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
	millions of dollars											
	Total Manufacturing											
K^G - Taxation Statistics	4.6	5.0	5.4	6.2	7.0	8.1	9.0	9.5	10.5	11.6	12.6	13.4
Set 1 - K^G My	4.8	5.2	5.6	6.1	6.8	7.5	8.3	9.0	10.0	11.2	12.3	13.1
Ey	5.0	5.4	5.7	6.4	7.2	7.9	8.6	9.4	10.6	11.8	12.7	13.6
Set 2 - K^G My	5.0	5.4	5.8	6.3	7.0	7.8	8.6	9.3	10.3	11.5	12.6	13.6
Ey	5.2	5.6	6.0	6.6	7.4	8.2	8.9	9.7	10.9	12.2	13.1	14.0
Set 3 - K^G My	5.2	5.6	6.0	6.5	7.2	8.0	8.7	9.5	10.4	11.7	12.8	13.7
Ey	5.4	5.8	6.2	6.8	7.6	8.4	9.1	9.8	11.0	12.3	13.2	14.2
Set 4 - K^G My	4.2	4.6	5.0	5.5	6.2	6.9	7.6	8.3	9.3	10.5	11.6	12.4
Ey	4.4	4.8	5.2	5.8	6.5	7.3	8.0	8.7	9.9	11.1	12.0	12.8
Set 5 - K^G My	4.0	4.4	4.8	5.3	6.0	6.7	7.3	7.9	8.8	10.0	11.0	11.8
Ey	4.2	4.6	5.0	5.6	6.3	7.1	7.6	8.3	9.4	10.6	11.4	12.3
	(a) Food and Beverages											
K^G - Taxation Statistics	0.6	0.6	0.7	0.7	0.8	0.9	0.9	1.1	1.2	1.2	1.3	1.4
Set 1 - K^G My	0.7	0.8	0.8	0.9	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6
Ey	0.7	0.8	0.8	0.9	1.0	1.0	1.1	1.2	1.3	1.4	1.6	1.7
Set 2 - K^G My	same as set 1											
Ey												
Set 3 - K^G My	0.7	0.8	0.9	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7
Ey	0.8	0.8	0.9	1.0	1.1	1.1	1.2	1.3	1.4	1.5	1.6	1.7
Set 4 - K^G My	0.6	0.7	0.7	0.8	0.9	0.9	1.0	1.1	1.2	1.3	1.4	1.6
Ey	0.6	0.7	0.8	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6
Set 5 - K^G My	0.5	0.6	0.7	0.8	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5
Ey	0.6	0.7	0.7	0.8	0.9	0.9	1.0	1.1	1.2	1.3	1.4	1.5
	(b) Tobacco, Rubber and Leather											
K^G - Taxation Statistics	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3
Set 1 - K^G My	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3
Ey	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3
Set 2 - K^G My	same as set 1											
Ey												
Set 3 - K^G My	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3
Ey	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3
Set 4 - K^G My	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3
Ey	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3
Set 5 - K^G My	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
Ey	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3
	(c) Textile Products											
K^G - Taxation Statistics	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.4	0.5	0.5
Set 1 - K^G My	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6
Ey	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6
Set 2 - K^G My	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6
Ey	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6
Set 3 - K^G My	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6
Ey	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.6
Set 4 - K^G My	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5
Ey	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5
Set 5 - K^G My	0.2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.5
Ey	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5

See **Notes** at end of table.

TABLE 3. Comparison Between Taxation Statistics and DBS Fixed Capital Stocks Project Gross Stock Estimates – Continued

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
	millions of dollars											
	(d) Clothing											
K^G - Taxation Statistics	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Set 1 - K^G My	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Ey	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Set 2 - K^G My	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3
Ey	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3
Set 3 - K^G My	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Ey	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3
Set 4 - K^G My	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Ey	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Set 5 - K^G My	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Ey	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	(e) Wood Products											
K^G - Taxation Statistics	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.8
Set 1 - K^G My	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6
Ey	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6
Set 2 - K^G My	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7
Ey	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.7	0.7
Set 3 - K^G My	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.6	0.6	0.7
Ey	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7
Set 4 - K^G My	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.6
Ey	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.6
Set 5 - K^G My	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.5
Ey	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	0.6
	(f) Paper Products											
K^G - Taxation Statistics	1.0	1.0	1.1	1.3	1.3	1.5	1.6	1.7	1.9	2.1	2.2	2.2
Set 1 - K^G My	0.7	0.8	0.8	0.9	1.0	1.1	1.2	1.3	1.5	1.8	2.0	2.1
Ey	0.8	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.7	1.9	2.0	2.2
Set 2 - K^G My	same as set 1											
Ey												
Set 3 - K^G My	0.8	0.9	0.9	1.0	1.1	1.2	1.3	1.4	1.6	1.8	2.0	2.1
Ey	0.8	0.9	1.0	1.1	1.2	1.3	1.3	1.5	1.7	2.0	2.1	2.2
Set 4 - K^G My	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.5	1.7	1.9	2.0
Ey	0.7	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.6	1.8	1.9	2.0
Set 5 - K^G My	0.6	0.7	0.8	0.8	1.0	1.1	1.1	1.2	1.4	1.7	1.8	1.9
Ey	0.7	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.5	1.8	1.9	2.0
	(g) Printing, Publishing and Allied Industries											
K^G - Taxation Statistics	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4
Set 1 - K^G My	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
Ey	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4
Set 2 - K^G My	same as set 1											
Ey												
Set 3 - K^G My	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4
Ey	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5
Set 4 - K^G My	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4
Ey	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4
Set 5 - K^G My	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4
Ey	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.4

See **Notes** at end of table.

TABLE 3. Comparison Between Taxation Statistics and DBS Fixed Capital Stocks Project Gross Stock Estimates – Continued

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
	millions of dollars											
	(h) Iron and Steel Products											
K^G - Taxation Statistics	0.7	0.7	0.8	0.9	1.0	1.1	1.3	1.3	1.4	1.6	1.8	2.0
Set 1 - K^G My	0.5	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.4	1.5	1.6
Ey	0.6	0.6	0.6	0.7	0.9	1.0	1.1	1.1	1.3	1.5	1.6	1.7
Set 2 - K^G My	0.6	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.4	1.5	1.7
Ey	0.6	0.6	0.7	0.7	0.9	1.0	1.1	1.2	1.3	1.5	1.6	1.8
Set 3 - K^G My	0.6	0.6	0.7	0.7	0.8	1.0	1.1	1.1	1.3	1.4	1.6	1.7
Ey	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.5	1.6	1.8
Set 4 - K^G My	0.5	0.5	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.3	1.4	1.5
Ey	0.5	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.4	1.5	1.6
Set 5 - K^G My	0.5	0.5	0.5	0.6	0.7	0.8	0.9	0.9	1.0	1.2	1.3	1.4
Ey	0.5	0.5	0.6	0.6	0.8	0.9	0.9	1.0	1.1	1.3	1.4	1.5
	(i) Transportation Equipment											
K^G - Taxation Statistics	0.2	0.2	0.3	0.3	0.3	0.5	0.6	0.7	0.7	0.8	0.8	0.8
Set 1 - K^G My	0.4	0.4	0.4	0.4	0.5	0.5	0.6	0.7	0.7	0.8	0.8	0.8
Ey	0.4	0.4	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.8	0.8	0.9
Set 2 - K^G My	0.4	0.4	0.4	0.4	0.5	0.6	0.7	0.7	0.8	0.8	0.9	0.9
Ey	0.4	0.4	0.4	0.5	0.5	0.6	0.7	0.7	0.8	0.8	0.9	1.0
Set 3 - K^G My	0.4	0.4	0.5	0.5	0.5	0.6	0.7	0.7	0.8	0.8	0.9	0.9
Ey	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	0.8	0.9	0.9	1.0
Set 4 - K^G My	0.3	0.3	0.3	0.3	0.4	0.5	0.5	0.6	0.6	0.7	0.8	0.8
Ey	0.3	0.3	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.8	0.8
Set 5 - K^G My	0.3	0.3	0.3	0.3	0.4	0.4	0.5	0.6	0.6	0.7	0.7	0.8
Ey	0.3	0.3	0.3	0.3	0.4	0.5	0.6	0.6	0.6	0.7	0.7	0.8
	(j) Non-ferrous Metal Products and Electrical Apparatus and Supplies											
K^G - Taxation Statistics	0.5	0.5	0.6	0.7	0.9	1.0	1.1	1.2	1.3	1.5	1.7	1.7
Set 1 - K^G My	0.6	0.6	0.7	0.7	0.8	0.9	1.0	1.1	1.2	1.4	1.6	1.7
Ey	0.6	0.6	0.7	0.8	0.9	1.0	1.0	1.2	1.3	1.5	1.6	1.7
Set 2 - K^G My	0.6	0.6	0.7	0.7	0.8	0.9	1.0	1.1	1.2	1.4	1.6	1.7
Ey	0.6	0.7	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.5	1.6	1.7
Set 3 - K^G My	0.6	0.7	0.7	0.7	0.8	0.9	1.0	1.1	1.3	1.4	1.6	1.7
Ey	0.6	0.7	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.5	1.6	1.7
Set 4 - K^G My	0.6	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.4	1.5	1.6
Ey	0.6	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.3	1.5	1.6	1.6
Set 5 - K^G My	0.6	0.6	0.6	0.7	0.8	0.9	0.9	0.9	1.0	1.2	1.3	1.4
Ey	0.6	0.6	0.6	0.7	0.8	0.9	0.9	1.0	1.1	1.3	1.4	1.5
	(k) Non-metallic Mineral Products and Products of Petroleum and Coal											
K^G - Taxation Statistics	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.3	1.4	1.6	1.8	2.0
Set 1 - K^G My	0.4	0.5	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.4	1.6	1.8
Ey	0.4	0.5	0.5	0.6	0.7	0.8	1.0	1.1	1.3	1.5	1.7	1.9
Set 2 - K^G My	0.4	0.5	0.5	0.6	0.7	0.8	0.9	1.1	1.3	1.5	1.6	1.8
Ey	0.5	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.4	1.6	1.7	1.9
Set 3 - K^G My	0.4	0.5	0.5	0.6	0.7	0.8	0.9	1.1	1.2	1.5	1.6	1.8
Ey	0.5	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.4	1.6	1.7	1.9
Set 4 - K^G My	0.4	0.4	0.5	0.5	0.6	0.7	0.8	1.0	1.2	1.4	1.5	1.7
Ey	0.4	0.4	0.5	0.6	0.7	0.8	0.9	1.1	1.3	1.4	1.6	1.8
Set 5 - K^G My	0.4	0.4	0.4	0.5	0.6	0.7	0.8	1.0	1.1	1.3	1.5	1.7
Ey	0.4	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.4	1.6	1.8

See **Notes** at end of table.

TABLE 3. Comparison Between Taxation Statistics and DBS Fixed Capital Stocks Project Gross Stock Estimates – Concluded

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959
	millions of dollars											
	(l) Chemical Products											
K^G - Taxation Statistics	0.3	0.3	0.3	0.4	0.5	0.5	0.7	0.6	0.7	0.8	0.9	1.0
Set 1 - K^G My	0.3	0.4	0.4	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2
Ey	0.3	0.4	0.4	0.4	0.6	0.7	0.7	0.8	0.9	1.1	1.2	1.3
Set 2 - K^G My	same as set 1											
Ey												
Set 3 - K^G My	0.3	0.4	0.4	0.4	0.5	0.7	0.7	0.8	0.9	1.0	1.2	1.3
Ey	0.3	0.4	0.4	0.5	0.6	0.7	0.8	0.8	1.0	1.1	1.2	1.3
Set 4 - K^G My	0.3	0.3	0.4	0.4	0.5	0.6	0.7	0.7	0.8	0.9	1.1	1.1
Ey	0.3	0.4	0.4	0.4	0.5	0.7	0.7	0.7	0.9	1.0	1.1	1.2
Set 5 - K^G My	0.3	0.3	0.4	0.4	0.5	0.6	0.7	0.7	0.8	0.9	1.0	1.1
Ey	0.3	0.3	0.4	0.4	0.5	0.6	0.7	0.7	0.8	1.0	1.1	1.1
	(m) Miscellaneous Manufacturing											
K^G - Taxation Statistics	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Set 1 - K^G My	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ey	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Set 2 - K^G My	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Ey	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2
Set 3 - K^G My	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Ey	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Set 4 - K^G My	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ey	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Set 5 - K^G My	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Ey	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Notes: See text for a complete description of these data.

K^G – Taxation Statistics is gross fixed assets for fully tabulated profit and loss companies in Manufacturing by taxation year from DNR, *Taxation Statistics 1950-1961*.

Other gross stock estimates are for each sets of lives, mid-year (My) and end-year (Ey) estimates in terms of original cost dollars prepared by the DBS Fixed Capital Stocks Project.

It should be noted, while for Total Manufacturing and eleven combined Major Groups, the trends shown by the sets of estimates are similar, for Wood Products and Miscellaneous Manufacturing Industries, gross fixed assets from *Taxation Statistics* grow much more rapidly than the DBS Fixed Capital Stocks Project data. A growth in the degree of incorporations within such major groups may possibly be the answer though the gross fixed capital formation data in Miscellaneous Manufacturing Industries is notably biased downward over time. The dissimilarity in the cyclical behaviour of the two sets of estimates offer the greater cause for concern but no satisfactory explanation would seem to be readily available.

(b) A Comparison with Other Fixed Capital Stock Estimates

Capital stock estimates for Canadian Manufacturing other than the ones presented in this report are available from two other sources. Reference has already been made to the excellent pioneering work done by Wm. C. Hood and A. Scott for the Royal Commission on Canada's Economic Prospects.[10] As well, Professor N. H. Lithwick of Carleton University, prepared estimates for use in his study of *Economic Growth in Canada: A Quantitative Analysis*.[11]

It was thought that a comparison of these estimates with the ones presented in this report would be of interest. In Section V, Table 4 A to 4 F the estimates of end-year gross and net stocks for construction and machinery and equipment and total for Total Manufacturing as prepared by Lithwick, Hood and Scott and DBS are reproduced. The comparison reveals, over the period (1937-55) where all the estimates are comparable, that the implied rates of growth of the gross and net stock estimates developed by Hood and Scott are slightly greater than those developed by DBS and both the Hood and Scott and DBS estimates have markedly larger implied rates of growth than do Lithwick's. The same statements about relative growth rates can be made for periods of time when the Hood and Scott and DBS estimates are comparable (1926-55) and when the Lithwick and DBS estimates are comparable (1937-60).

With respect to individual groups, somewhat greater discrepancies between the Hood and Scott and DBS estimates can be observed but the comparisons are not reproduced here.

Differences amongst the three sets of estimates would require a detailed examination of the effects of different estimates of current dollar gross fixed capital formation, different price indexes and different average economic "lives" which is not attempted here.

[10] Wm. C. Hood and A. Scott, *op. cit.*

[11] N.H. Lithwick, *op. cit.* Professor Lithwick has kindly permitted reproduction of his estimates in this report.

TABLE 4 A. A Comparison of Fixed Capital Stock Estimates, Lithwick, Hood-Scott and DBS, End-year Gross Stock, Manufacturing, Construction

Year	(1) Lithwick	(2) Hood-Scott	(3) Set I	(4) Set II	(5) Set III	(6) Set IV	(7) Set V
	millions of constant 1949 dollars						
1926		2,304	2,941	3,074		2,748	2,748
1927		2,438	3,065	3,208		2,854	2,854
1928		2,626	3,247	3,402		3,019	3,019
1929		2,821	3,434	3,601		3,186	3,186
1930		2,933	3,537	3,713		3,269	3,269
1931		2,992	3,578	3,764		3,292	3,292
1932		3,013	3,577	3,773	3,746	3,275	3,275
1933		3,034	3,572	3,782	3,768	3,252	3,252
1934		3,056	3,571	3,798	3,791	3,226	3,226
1935		3,082	3,572	3,819	3,810	3,200	3,200
1936		3,114	3,602	3,873	3,857	3,200	3,200
1937	4,283	3,219	3,668	3,956	3,940	3,244	3,244
1938	4,332	3,295	3,699	4,013	3,987	3,263	3,263
1939	4,359	3,352	3,710	4,050	4,012	3,263	3,263
1940	4,438	3,438	3,804	4,176	4,124	3,346	3,346
1941	4,538	3,570	3,956	4,363	4,291	3,489	3,489
1942	4,677	3,723	4,138	4,588	4,493	3,668	3,668
1943	4,714	3,778	4,195	4,692	4,568	3,713	3,713
1944	4,709	3,807	4,223	4,762	4,608	3,712	3,712
1945	4,714	3,865	4,277	4,851	4,668	3,726	3,726
1946	4,752	3,937	4,395	5,004	4,796	3,812	3,812
1947	4,840	4,069	4,560	5,198	4,967	3,942	3,942
1948	4,924	4,157	4,701	5,359	5,107	4,016	4,016
1949	4,937	4,218	4,809	5,480	5,212	4,066	4,066
1950	4,908	4,280	4,881	5,570	5,289	4,093	4,093
1951	4,942	4,380	5,034	5,747	5,463	4,180	4,180
1952	5,005	4,577	5,219	5,964	5,675	4,299	4,299
1953	5,072	4,741	5,381	6,144	5,868	4,405	4,405
1954	5,147	4,883	5,515	6,298	6,046	4,540	4,540
1955	5,299	5,090	5,692	6,482	6,263	4,711	4,711
1956	5,551		5,943	6,751	6,570	4,948	4,948
1957	5,784		6,159	7,017	6,884	5,201	5,201
1958	5,922		6,305	7,195	7,097	5,389	5,389
1959	6,048		6,444	7,346	7,277	5,559	5,559
1960	6,104		6,586	7,451	7,415	5,660	5,660

Note: Lithwick's estimates begin in 1937 and the Hood-Scott data end in 1955. The DBS estimates for Set III do not go back prior to 1932.

Sources: (1) N. H. Lithwick, *Economic Growth in Canada: A Quantitative Analysis*, Ph. D. Dissertation, submitted at Harvard in 1963, Table B-4, p. 181.
(2) Wm. C. Hood and A. Scott, *Output, Labour and Capital in The Canadian Economy*, Table 6 B-8, p. 453.
(3)-(7) DBS Fixed Capital Stocks Project.

TABLE 4B. A Comparison of Fixed Capital Stock Estimates, Lithwick, Hood-Scott and DBS, End-year Net Stock, Manufacturing, Construction

Year	(1) Lithwick	(2) Hood-Scott	(3) Set I	(4) Set II	(5) Set III	(6) Set IV	(7) Set V
	millions of constant 1949 dollars						
1926		1,591	1,844	2,053		1,591	1,591
1927		1,680	1,915	2,134		1,651	1,651
1928		1,818	2,041	2,270		1,766	1,766
1929		1,960	2,169	2,408		1,881	1,881
1930		2,014	2,210	2,460		1,911	1,911
1931		2,014	2,196	2,457		1,885	1,885
1932		1,974	2,146	2,417	2,401	1,823	1,823
1933		1,933	2,095	2,377	2,360	1,762	1,762
1934		1,893	2,046	2,338	2,321	1,704	1,704
1935		1,856	2,001	2,302	2,285	1,650	1,650
1936		1,847	1,985	2,295	2,277	1,626	1,626
1937	2,211	1,877	2,010	2,328	2,310	1,643	1,643
1938	2,182	1,874	2,001	2,328	2,310	1,628	1,628
1939	2,131	1,850	1,973	2,307	2,289	1,592	1,592
1940	2,142	1,877	2,031	2,372	2,354	1,643	1,643
1941	2,182	1,942	2,146	2,493	2,477	1,750	1,750
1942	2,272	2,055	2,294	2,647	2,632	1,890	1,890
1943	2,274	2,082	2,317	2,677	2,664	1,904	1,904
1944	2,241	2,072	2,305	2,670	2,660	1,883	1,883
1945	2,229	2,082	2,312	2,682	2,674	1,881	1,881
1946	2,284	2,158	2,386	2,759	2,756	1,946	1,946
1947	2,382	2,275	2,500	2,876	2,878	2,052	2,052
1948	2,449	2,365	2,582	2,961	2,969	2,126	2,126
1949	2,483	2,418	2,628	3,011	3,025	2,166	2,166
1950	2,488	2,652	2,645	3,031	3,052	2,176	2,176
1951	2,592	2,771	2,755	3,144	3,172	2,282	2,282
1952	2,739	2,931	2,907	3,300	3,336	2,431	2,431
1953	2,861	3,062	3,032	3,428	3,471	2,553	2,553
1954	2,954	3,176	3,126	3,525	3,577	2,644	2,644
1955	3,080	3,307	3,254	3,656	3,714	2,768	2,768
1956	3,290		3,466	3,873	3,937	2,975	2,975
1957	3,505		3,684	4,096	4,165	3,186	3,186
1958	3,627		3,810	4,226	4,299	3,303	3,303
1959	3,722		3,909	4,329	4,407	3,391	3,391
1960	3,784		3,987	4,411	4,492	3,456	3,456

For **note** and **sources** see Table 4 A.

TABLE 4 C. A Comparison of Fixed Capital Stock Estimates, Lithwick, Hood-Scott and DBS, End-year Gross Stock, Manufacturing, Machinery and Equipment
(Including capital items charged to operating expenses)

Year	(1) Lithwick	(2) Hood-Scott	(3) Set I	(4) Set II	(5) Set III	(6) Set IV	(7) Set V
	millions of constant 1949 dollars						
1926		1,281	2,928	2,928		2,406	1,665
1927		1,384	2,970	2,970		2,403	1,643
1928		1,474	2,993	2,993		2,385	1,633
1929		1,547	3,004	3,004		2,343	1,591
1930		1,600	3,021	3,021		2,288	1,565
1931		1,592	2,977	2,977		2,201	1,526
1932		1,560	2,859	2,859	3,438	2,092	1,437
1933		1,557	2,706	2,706	3,362	1,970	1,346
1934		1,562	2,552	2,552	3,278	1,861	1,301
1935		1,591	2,438	2,438	3,206	1,803	1,283
1936		1,619	2,361	2,361	3,116	1,764	1,266
1937	3,350	1,679	2,332	2,332	3,040	1,738	1,289
1938	3,334	1,722	2,298	2,298	2,944	1,718	1,285
1939	3,287	1,754	2,270	2,270	2,868	1,723	1,264
1940	3,432	1,947	2,427	2,427	2,989	1,880	1,383
1941	3,637	2,205	2,684	2,684	3,226	2,149	1,647
1942	3,814	2,451	2,875	2,875	3,434	2,393	1,889
1943	3,834	2,567	2,977	2,977	3,539	2,413	1,866
1944	3,760	2,636	3,059	3,059	3,607	2,308	1,795
1945	3,705	2,746	3,097	3,097	3,745	2,284	1,822
1946	3,632	2,853	3,098	3,098	3,892	2,342	1,907
1947	3,636	3,100	3,244	3,244	4,056	2,559	2,122
1948	3,704	3,367	3,463	3,463	4,188	2,719	2,345
1949	3,874	3,653	3,632	3,632	4,303	2,969	2,616
1950	4,108	3,942	3,709	3,709	4,447	3,183	2,819
1951	4,503	4,332	4,015	4,015	4,710	3,500	3,135
1952	4,967	4,818	4,366	4,366	4,995	3,875	3,546
1953	5,407	5,287	4,747	4,747	5,356	4,275	3,906
1954	5,797	5,654	5,062	5,062	5,610	4,575	4,079
1955	6,142	5,987	5,413	5,413	5,916	4,904	4,294
1956	6,695		5,955	5,955	6,405	5,428	4,730
1957	7,263		6,478	6,478	6,962	5,961	5,224
1958	7,461		6,793	6,793	7,299	6,237	5,510
1959	7,618		7,152	7,152	7,674	6,459	5,791
1960	7,833		7,556	7,556	8,100	6,763	6,036

For **note** and **sources** see Table 4 A.

TABLE 4 D. A Comparison of Fixed Capital Stock Estimates, Lithwick, Hood-Scott and DBS, End-year Net Stock, Manufacturing, Machinery and Equipment
(Including capital items charged to operating expenses)

Year	(1) Lithwick	(2) Hood-Scott	(3) Set I	(4) Set II	(5) Set III	(6) Set IV	(7) Set V
	millions of constant 1949 dollars						
1926		695	1,383	1,383		1,058	731
1927		778	1,391	1,391		1,062	748
1928		856	1,395	1,395		1,067	766
1929		924	1,400	1,400		1,073	785
1930		990	1,405	1,405		1,082	807
1931		995	1,360	1,360		1,046	781
1932		952	1,270	1,270	1,589	969	713
1933		919	1,184	1,184	1,498	899	652
1934		896	1,117	1,117	1,421	847	606
1935		886	1,080	1,080	1,372	824	588
1936		874	1,048	1,048	1,326	799	566
1937	1,634	901	1,056	1,056	1,321	811	580
1938	1,565	917	1,054	1,054	1,312	812	582
1939	1,489	919	1,044	1,044	1,297	805	576
1940	1,588	1,080	1,189	1,189	1,442	944	719
1941	1,760	1,300	1,423	1,423	1,685	1,156	934
1942	1,901	1,497	1,586	1,586	1,867	1,274	1,054
1943	1,894	1,559	1,611	1,611	1,916	1,256	1,038
1944	1,879	1,604	1,567	1,567	1,900	1,202	986
1945	1,944	1,721	1,592	1,592	1,949	1,243	1,026
1946	2,011	1,830	1,634	1,634	1,994	1,304	1,082
1947	2,218	2,069	1,826	1,826	2,170	1,504	1,273
1948	2,433	2,315	2,034	2,034	2,365	1,723	1,476
1949	2,606	2,508	2,201	2,201	2,528	1,902	1,632
1950	2,738	2,641	2,334	2,334	2,655	2,030	1,731
1951	2,949	2,864	2,572	2,572	2,887	2,254	1,923
1952	3,220	3,174	2,877	2,877	3,196	2,538	2,169
1953	3,466	3,451	3,164	3,164	3,495	2,798	2,383
1954	3,638	3,601	3,340	3,340	3,687	2,941	2,481
1955	3,789	3,738	3,537	3,537	3,906	3,105	2,604
1956	4,117		3,910	3,910	4,307	3,442	2,900
1957	4,423		4,261	4,261	4,690	3,751	3,162
1958	4,498		4,395	4,395	4,858	3,838	3,196
1959	4,604		4,558	4,558	5,055	3,958	3,256
1960	4,739		4,737	4,737	5,271	4,102	3,334

For **note** and **sources** see Table 4 A.

TABLE 4E. A Comparison of Fixed Capital Stock Estimates, Lithwick, Hood-Scott and DBS, End-year Gross Stock, Manufacturing, Construction, Machinery and Equipment

(Including capital items charged to operating expenses)

Year	(1) Lithwick	(2) Hood-Scott	(3) Set I	(4) Set II	(5) Set III	(6) Set IV	(7) Set V
	millions of constant 1949 dollars						
1926		3,585	5,869	6,003		5,154	4,413
1927		3,822	6,035	6,178		5,258	4,498
1928		4,099	6,240	6,394		5,404	4,652
1929		4,367	6,438	6,605		5,529	4,777
1930		4,533	6,558	6,734		5,557	4,834
1931		4,584	6,554	6,741		5,494	4,818
1932		4,573	6,436	6,633	7,184	5,367	4,712
1933		4,590	6,278	6,489	7,130	5,222	4,598
1934		4,619	6,123	6,350	7,069	5,088	4,527
1935		4,672	6,010	6,257	7,017	5,003	4,483
1936		4,733	5,963	6,234	6,974	4,964	4,467
1937	7,634	4,898	5,999	6,288	6,980	4,982	4,534
1938	7,666	5,017	5,996	6,310	6,931	4,981	4,548
1939	7,646	5,105	5,980	6,320	6,881	4,986	4,527
1940	7,870	5,386	6,231	6,603	7,113	5,226	4,729
1941	8,175	5,774	6,639	7,047	7,517	5,638	5,136
1942	8,490	6,174	7,013	7,462	7,927	6,062	5,558
1943	8,548	6,346	7,172	7,668	8,107	6,126	5,578
1944	8,469	6,443	7,282	7,820	8,215	6,020	5,507
1945	8,419	6,612	7,374	7,948	8,413	6,010	5,548
1946	8,384	6,790	7,493	8,103	8,688	6,154	5,719
1947	8,476	7,169	7,804	8,442	9,023	6,500	6,064
1948	8,628	7,523	8,164	8,822	9,296	6,735	6,361
1949	8,810	7,872	8,442	9,112	9,514	7,035	6,681
1950	9,015	8,222	8,590	9,280	9,736	7,276	6,912
1951	9,445	8,713	9,049	9,762	10,172	7,681	7,315
1952	9,973	9,395	9,585	10,330	10,670	8,174	7,846
1953	10,479	10,028	10,129	10,892	11,224	8,680	8,311
1954	10,944	10,537	10,577	11,359	11,656	9,115	8,620
1955	11,442	11,078	11,108	11,896	12,179	9,615	9,006
1956	12,245		11,897	12,705	12,976	10,376	9,678
1957	13,047		12,637	13,495	13,846	11,162	10,425
1958	13,383		13,098	13,988	14,396	11,626	10,900
1959	13,666		13,597	14,498	14,951	12,018	11,350
1960	13,937		14,142	15,007	15,515	12,423	11,696

For **note** and **sources** see Table 4A.

TABLE 4 F. A Comparison of Fixed Capital Stock Estimates, Lithwick, Hood-Scott and DBS, End-year Net Stock, Manufacturing, Construction, Machinery and Equipment
(Including capital items charged to operating expenses)

Year	(1) Lithwick	(2) Hood-Scott	(3) Set I	(4) Set II	(5) Set III	(6) Set IV	(7) Set V
	millions of constant 1949 dollars						
1926		2,286	3,227	3,436		2,649	2,322
1927		2,457	3,306	3,525		2,713	2,399
1928		2,674	3,436	3,665		2,833	2,532
1929		2,884	3,568	3,808		2,953	2,666
1930		3,004	3,615	3,865		2,993	2,718
1931		3,008	3,556	3,817		2,930	2,666
1932		2,926	3,416	3,688	3,990	2,792	2,536
1933		2,851	3,279	3,561	3,858	2,661	2,413
1934		2,790	3,163	3,455	3,742	2,551	2,310
1935		2,742	3,082	3,383	3,657	2,474	2,237
1936		2,721	3,034	3,344	3,603	2,425	2,192
1937	3,846	2,779	3,066	3,385	3,631	2,454	2,223
1938	3,747	2,790	3,055	3,382	3,621	2,440	2,210
1939	3,621	2,769	3,017	3,351	3,586	2,397	2,169
1940	3,730	2,957	3,220	3,561	3,796	2,587	2,362
1941	3,942	3,242	3,568	3,916	4,161	2,906	2,685
1942	4,172	3,553	3,880	4,233	4,499	3,164	2,944
1943	4,168	3,640	3,928	4,288	4,580	3,160	2,942
1944	4,120	3,676	3,873	4,238	4,560	3,085	2,868
1945	4,173	3,803	3,904	4,274	4,623	3,124	2,908
1946	4,294	3,988	4,020	4,392	4,750	3,250	3,028
1947	4,600	4,345	4,325	4,702	5,048	3,556	3,325
1948	4,882	4,680	4,616	4,995	5,334	3,849	3,602
1949	5,090	4,927	4,829	5,212	5,553	4,068	3,797
1950	5,226	5,293	4,978	5,365	5,706	4,206	3,908
1951	5,541	5,635	5,327	5,716	6,059	4,535	4,205
1952	5,959	6,104	5,784	6,177	6,532	4,969	4,600
1953	6,328	6,513	6,197	6,592	6,967	5,351	4,936
1954	6,592	6,776	6,466	6,865	7,264	5,585	5,126
1955	6,868	7,045	6,791	7,193	7,621	5,873	5,372
1956	7,407		7,376	7,784	8,244	6,418	5,875
1957	7,928		7,945	8,357	8,855	6,937	6,348
1958	8,125		8,205	8,621	9,157	7,141	6,499
1959	8,326		8,468	8,888	9,462	7,349	6,647
1960	8,522		8,724	9,148	9,764	7,558	6,790

For **note** and **sources** see Table 4 A.

(c) Conclusion

The check against *Taxation Statistics* on the validity of the estimates of fixed capital flows and stocks developed for Manufacturing by the DBS Fixed Capital Stocks Project is, unfortunately, all too inconclusive. The incomparability of the estimates presented in this report and the *Taxation Statistics* data means that any conclusion as to the validity of the new estimates, whether favourable or unfavourable, must be preliminary and tentative. Much more research is necessary before a fully satisfactory comparison and reconciliation of such estimates can be made. Thus, while for Total Manufacturing, the level and trends of the two estimates appear reasonably similar, examination of the Major Group comparisons reveals that the satisfactory result at the aggregate is merely the result of offsetting discrepancies at the Major Group level—discrepancies which at this stage of research cannot be satisfactorily explained.

Attention has been devoted only to comparisons of gross stock estimates since estimates of net stocks and capital cost allowances from *Taxation Statistics* are affected by "tax lives" rather than "true lives" of fixed capital goods.

In Section IV, Table 3, it was shown that dissimilarities exist between capital expenditures by Major Group from *Taxation Statistics* and gross fixed capital formation by Major Group from the Capital Expenditures Survey. In this Section, the estimates of gross stock also reveal dissimilarities.

The estimates in constant and current dollars cannot, however, be checked in the same way since there exist no independent estimates in terms of such valuations.

The comparison amongst the Lithwick, Hood and Scott and DBS estimates reveals some differences in the estimated rates of growth of the stock of capital in Manufacturing and there would appear to be closer similarity between the Hood and Scott and DBS estimates than with those developed by Lithwick. As indicated, no detailed examination of the differences is attempted in this study.

The estimates presented in this report are of such a preliminary nature as to suggest considerable caution in their use. They represent, however, the extent to which research on this problem has so far been carried by the DBS. They are being released with the hope that their use by researchers will shed some additional light on the working of the economic system, and that future research in this area at DBS will benefit from critical comments on them and suggestions for their improvement.

SECTION VI

Introduction

This section consists of tables showing annual estimates for the period 1926 to 1960 of gross fixed capital formation, net fixed capital formation, capital consumption allowances and mid-year gross and net stocks of fixed reproducible capital by major industrial groups in Canadian manufacturing.

As previously noted, five sets of such estimates have been prepared on the basis of different assumptions with respect to the average economic "lives" of capital goods. This section provides only estimates pertaining to Set I of average economic "lives". These "lives" were the first ones used to prepare the estimates and represent the mid-points of the ranges of "lives" used.

All the estimates based on the different sets of economic "lives" are presented in *Fixed Capital Flows and Stocks, Manufacturing, Canada, 1926-1960 – Statistiscal Supplement.*

The present document will also be made available in French as a separate publication, However, the *Statistical Supplement* referred to above will be a bilingual publication. The tabular material presented in this Section is a reproduction of Set I of estimates shown in the *Statistical Supplement*, which explains the bilingual headings of the tabulations in this Section.

The interpretation of the symbols as used in the tables in this Section is as follows:

.. This symbol is used to indicate that the entry is not applicable owing to the method of estimation used.

– This symbol is used where the entry is estimated to be zero or where the amount is too small to be expressed.

Note: Components may not add to totals because of rounding.

TABLE 1. Estimates of Fixed Capital, Flows and Mid-year Stocks, Total Manufacturing, Current Dollars, 1926 - 1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	56	14	42	1,769	1,116	59	- 14	73	1,743	831
1927	87	43	44	1,836	1,148	74	1	73	1,734	812
1928	122	75	46	1,942	1,216	74	1	73	1,758	818
1929	131	80	51	2,147	1,350	75	1	74	1,768	819
1930	76	24	52	2,172	1,361	70	2	68	1,639	758
1931	41	- 9	50	2,086	1,288	44	- 20	64	1,533	704
1932	19	- 28	47	1,997	1,209	22	- 39	61	1,489	671
1933	18	- 27	45	1,922	1,137	19	- 39	58	1,399	619
1934	20	- 26	46	1,923	1,113	24	- 34	58	1,417	623
1935	21	- 25	46	1,934	1,094	36	- 21	57	1,403	618
1936	38	- 9	46	1,960	1,087	36	- 20	57	1,395	617
1937	64	14	50	2,115	1,161	61	- 1	62	1,525	679
1938	45	- 5	50	2,125	1,155	56	- 4	61	1,500	678
1939	33	- 16	50	2,119	1,134	52	- 8	60	1,473	672
1940	85	35	51	2,179	1,160	93	29	64	1,584	732
1941	129	72	57	2,433	1,309	166	93	72	1,781	861
1942	161	98	63	2,679	1,469	151	73	79	1,923	986
1943	85	16	68	2,897	1,603	107	26	81	1,964	1,041
1944	61	- 8	70	2,975	1,634	70	- 12	82	1,981	1,053
1945	76	5	71	3,040	1,651	95	17	78	1,901	1,005
1946	132	56	76	3,275	1,774	164	85	79	1,897	1,022
1947	185	96	88	3,803	2,075	287	193	94	2,262	1,279
1948	181	78	102	4,424	2,428	330	216	114	2,727	1,624
1949	157	46	110	4,755	2,605	318	187	131	3,145	1,944
1950	135	18	118	5,103	2,777	305	155	150	3,586	2,274
1951	268	131	136	5,913	3,221	446	273	172	4,112	2,662
1952	344	192	150	6,495	3,587	539	349	190	4,520	3,000
1953	325	164	160	6,959	3,899	551	337	214	5,081	3,429
1954	288	123	165	7,127	4,028	450	215	236	5,592	3,769
1955	345	171	173	7,506	4,274	510	248	261	6,193	4,132
1956	488	298	189	8,175	4,723	781	481	301	7,115	4,738
1957	520	317	203	8,793	5,195	826	480	347	8,177	5,452
1958	398	186	211	9,181	5,520	592	207	385	9,060	5,986
1959	374	151	223	9,669	5,855	651	239	412	9,681	6,296
1960	355	121	233	10,153	6,153	719	270	450	10,553	6,750

TABLEAU 1. Estimations de capital fixe, flux et stocks de mi-année, total du secteur de la fabrication, en dollars courants, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
15	—	14	72	38	129	- 1	129	3,584	1,985	1926
18	3	15	77	39	179	47	131	3,647	1,999	1927
19	2	16	82	42	214	78	136	3,783	2,076	1928
19	2	17	84	44	224	82	142	3,999	2,213	1929
18	1	16	80	42	163	27	136	3,892	2,162	1930
11	- 4	15	76	38	95	- 33	128	3,695	2,030	1931
6	- 8	14	69	31	47	- 75	123	3,554	1,911	1932
5	- 6	11	57	23	42	- 72	114	3,378	1,780	1933
6	- 4	10	51	19	50	- 64	114	3,391	1,755	1934
9	—	9	43	18	67	- 45	112	3,380	1,730	1935
9	1	8	38	20	83	- 28	111	3,393	1,723	1936
15	6	9	46	26	140	19	121	3,686	1,866	1937
14	3	11	54	31	115	- 6	121	3,678	1,863	1938
13	1	12	60	33	98	- 23	121	3,652	1,838	1939
96	74	22	110	73	275	139	136	3,873	1,965	1940
135	89	46	227	164	430	255	174	4,441	2,334	1941
133	61	72	359	250	446	232	213	4,961	2,704	1942
85	- 6	91	454	280	277	37	240	5,316	2,924	1943
80	- 24	104	522	266	211	- 44	256	5,478	2,954	1944
109	3	106	531	244	280	24	255	5,472	2,899	1945
41	- 53	94	472	211	337	88	249	5,644	3,008	1946
56	- 30	86	432	190	528	259	268	6,496	3,544	1947
62	- 21	82	413	183	573	274	298	7,564	4,234	1948
61	- 20	81	403	174	536	213	322	8,303	4,722	1949
62	- 13	75	373	171	502	160	342	9,062	5,222	1950
80	4	75	375	187	793	408	384	10,399	6,069	1951
90	13	77	386	195	973	554	417	11,402	6,782	1952
94	12	81	406	212	969	513	455	12,447	7,540	1953
84	—	84	419	220	822	338	484	13,139	8,016	1954
92	2	90	450	230	946	422	524	14,150	8,636	1955
125	24	101	504	257	1,394	803	590	15,794	9,714	1956
132	21	112	559	292	1,479	817	661	17,529	10,940	1957
105	- 12	118	587	306	1,095	381	714	18,828	11,812	1958
119	- 1	120	600	304	1,144	389	755	19,951	12,455	1959
127	—	127	636	313	1,201	390	810	21,342	13,216	1960

TABLE 2. Estimates of Fixed Capital, Flows and Mid-year Stocks, Total Manufacturing, Constant 1949 Dollars, 1926 - 1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	92	23	69	2,903	1,833	94	- 23	118	2,796	1,333
1927	142	71	71	3,003	1,879	120	2	118	2,824	1,323
1928	201	126	75	3,156	1,978	120	1	119	2,848	1,324
1929	207	127	79	3,340	2,105	121	2	119	2,862	1,326
1930	125	42	82	3,485	2,189	123	3	119	2,872	1,328
1931	71	- 14	84	3,557	2,203	81	- 37	118	2,856	1,311
1932	34	- 50	85	3,577	2,171	42	- 73	115	2,786	1,256
1933	34	- 51	85	3,575	2,120	37	- 74	110	2,671	1,182
1934	36	- 48	84	3,572	2,070	44	- 60	104	2,537	1,116
1935	39	- 45	84	3,572	2,024	63	- 36	99	2,420	1,067
1936	68	- 16	84	3,587	1,993	61	- 34	95	2,335	1,031
1937	110	25	85	3,635	1,997	91	- 2	92	2,278	1,014
1938	78	- 9	86	3,683	2,005	84	- 7	91	2,234	1,009
1939	58	- 28	86	3,704	1,987	77	- 11	89	2,194	1,000
1940	146	58	87	3,757	2,002	129	40	89	2,195	1,015
1941	205	115	90	3,880	2,088	211	119	92	2,263	1,095
1942	242	148	94	4,047	2,220	184	88	96	2,338	1,198
1943	121	24	97	4,167	2,305	130	32	98	2,373	1,258
1944	86	- 12	98	4,209	2,311	84	- 14	98	2,384	1,267
1945	106	7	99	4,250	2,309	120	21	99	2,404	1,270
1946	175	74	101	4,335	2,349	214	111	103	2,481	1,337
1947	218	113	104	4,477	2,443	338	227	111	2,663	1,506
1948	189	82	107	4,630	2,541	352	231	121	2,913	1,735
1949	157	46	110	4,755	2,605	318	187	131	3,145	1,944
1950	129	16	112	4,845	2,636	283	144	139	3,327	2,109
1951	224	110	115	4,957	2,700	383	235	148	3,553	2,299
1952	271	152	118	5,127	2,831	456	294	162	3,871	2,563
1953	247	125	122	5,300	2,970	454	277	177	4,227	2,849
1954	220	94	126	5,448	3,079	367	176	192	4,567	3,076
1955	257	128	129	5,604	3,190	401	195	205	4,890	3,261
1956	347	212	134	5,818	3,360	580	355	224	5,316	3,536
1957	357	218	140	6,051	3,576	583	336	246	5,827	3,882
1958	270	126	143	6,232	3,747	407	142	264	6,240	4,122
1959	246	99	147	6,375	3,860	443	164	279	6,574	4,275
1960	228	77	150	6,515	3,948	474	179	295	6,944	4,446

TABLEAU 2. Estimations de capital fixe, flux et stocks de mi-année, total du secteur de la fabrication, en dollars constants de 1949, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
24	—	23	116	61	210	—	210	5,816	3,227	1926
30	5	25	125	64	292	78	214	5,952	3,266	1927
30	4	27	134	68	351	130	220	6,138	3,370	1928
30	3	27	137	71	358	132	226	6,339	3,502	1929
31	2	28	141	74	278	48	230	6,498	3,592	1930
20	- 8	28	143	71	172	- 59	232	6,556	3,585	1931
11	- 16	26	132	59	87	- 140	226	6,495	3,486	1932
10	- 13	22	112	46	80	- 138	217	6,358	3,348	1933
11	- 7	18	92	35	91	- 116	207	6,201	3,221	1934
16	1	15	75	31	118	- 81	198	6,067	3,122	1935
15	2	13	65	33	144	- 48	192	5,987	3,058	1936
23	9	14	68	39	224	32	192	5,981	3,050	1937
21	5	16	80	46	182	- 11	193	5,998	3,061	1938
19	2	18	90	49	155	- 38	193	5,988	3,036	1939
135	104	31	154	101	410	202	207	6,105	3,118	1940
173	115	58	292	211	590	349	241	6,435	3,393	1941
163	75	88	441	306	589	311	278	6,826	3,724	1942
104	- 7	111	553	340	354	49	306	7,092	3,904	1943
97	- 30	127	633	322	267	- 56	323	7,227	3,901	1944
138	2	135	674	309	365	29	333	7,328	3,888	1945
54	- 70	123	616	276	443	116	327	7,433	3,962	1946
66	- 36	101	508	223	621	305	316	7,648	4,172	1947
66	- 22	88	440	195	607	291	317	7,983	4,470	1948
61	- 20	81	403	174	536	214	322	8,303	4,722	1949
57	- 12	69	344	158	469	149	320	8,516	4,904	1950
66	4	62	309	154	673	348	324	8,819	5,152	1951
74	11	64	320	161	801	457	344	9,317	5,555	1952
76	10	66	329	172	777	412	365	9,856	5,990	1953
68	—	67	337	176	655	270	385	10,353	6,331	1954
71	2	69	348	178	729	324	404	10,841	6,628	1955
91	18	74	368	187	1,017	585	432	11,501	7,084	1956
92	14	78	389	203	1,032	569	463	12,267	7,661	1957
71	- 6	79	396	206	748	261	487	12,868	8,075	1958
79	- 1	80	399	202	768	262	505	13,347	8,336	1959
82	—	82	410	202	784	256	527	13,870	8,596	1960

TABLE 3. Estimates of Fixed Capital, Flows and Mid-year Stocks, Total Manufacturing, Constant 1957 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	133	34	100	4,218	2,662	133	- 31	164	3,889	1,858
1927	207	103	104	4,364	2,731	168	3	165	3,928	1,844
1928	293	184	109	4,586	2,874	168	2	166	3,963	1,847
1929	301	188	115	4,854	3,059	169	3	167	3,984	1,850
1930	181	61	121	5,065	3,182	173	6	167	3,999	1,854
1931	103	- 21	123	5,169	3,202	112	- 53	166	3,979	1,830
1932	50	- 73	123	5,198	3,155	58	- 103	161	3,882	1,752
1933	49	- 74	123	5,195	3,082	51	- 103	154	3,721	1,648
1934	53	- 70	123	5,190	3,009	61	- 85	146	3,534	1,554
1935	57	- 66	123	5,190	2,941	86	- 52	138	3,369	1,486
1936	100	- 23	123	5,213	2,897	84	- 48	133	3,250	1,436
1937	160	36	124	5,283	2,903	127	- 2	130	3,172	1,410
1938	113	- 13	126	5,353	2,915	117	- 10	127	3,112	1,404
1939	85	- 41	126	5,383	2,887	107	- 16	124	3,056	1,391
1940	212	85	127	5,460	2,910	181	57	124	3,059	1,411
1941	298	166	132	5,638	3,035	298	169	129	3,156	1,524
1942	352	215	137	5,881	3,225	261	127	134	3,264	1,672
1943	176	35	142	6,055	3,350	184	47	137	3,316	1,759
1944	126	- 17	143	6,116	3,358	118	- 20	138	3,334	1,772
1945	153	10	144	6,175	3,355	168	29	139	3,360	1,777
1946	254	107	147	6,300	3,413	299	155	144	3,466	1,868
1947	316	165	151	6,506	3,550	471	315	155	3,717	2,103
1948	275	119	156	6,728	3,692	492	322	170	4,064	2,422
1949	228	68	160	6,910	3,785	444	261	184	4,386	2,713
1950	187	24	163	7,040	3,831	395	201	194	4,639	2,944
1951	326	160	167	7,204	3,923	538	331	208	4,957	3,210
1952	394	223	172	7,450	4,114	644	417	226	5,405	3,584
1953	359	181	178	7,702	4,315	642	394	249	5,910	3,989
1954	320	137	183	7,917	4,474	516	246	269	6,392	4,309
1955	374	185	188	8,143	4,635	564	276	289	6,846	4,570
1956	504	309	195	8,454	4,883	820	505	315	7,450	4,960
1957	520	317	203	8,794	5,195	826	480	347	8,177	5,453
1958	393	184	209	9,058	5,446	573	201	373	8,764	5,793
1959	358	145	213	9,266	5,610	623	230	393	9,235	6,008
1960	331	113	218	9,470	5,739	669	253	416	9,758	6,250

TABLEAU 3. Estimations de capital fixe, flux et stocks de mi-année, total du secteur de la fabrication, en dollars constants de 1957, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
34	—	33	167	88	300	3	297	8, 274	4, 609	1926
43	7	36	180	92	418	113	305	8, 472	4, 667	1927
43	5	38	192	98	504	191	314	8, 740	4, 819	1928
44	4	39	196	102	514	192	321	9, 033	5, 010	1929
44	4	41	203	106	398	70	328	9, 267	5, 142	1930
30	- 11	41	206	102	244	- 85	330	9, 354	5, 134	1931
16	- 20	38	190	85	123	- 196	322	9, 270	4, 991	1932
14	- 19	32	161	65	113	- 196	309	9, 077	4, 795	1933
16	- 11	26	132	50	130	- 165	295	8, 856	4, 614	1934
22	1	22	108	46	166	- 116	282	8, 668	4, 472	1935
22	3	18	93	48	206	- 68	274	8, 557	4, 380	1936
33	13	20	98	56	319	46	273	8, 553	4, 368	1937
30	7	23	115	66	260	- 16	275	8, 580	4, 385	1938
28	2	26	129	71	220	- 56	276	8, 568	4, 348	1939
193	149	44	221	146	587	291	296	8, 739	4, 466	1940
249	165	84	419	303	845	501	344	9, 214	4, 862	1941
234	108	126	633	439	847	449	398	9, 779	5, 337	1942
149	- 10	159	794	488	509	72	437	10, 165	5, 598	1943
139	- 42	182	909	463	383	- 80	463	10, 359	5, 594	1944
199	5	194	968	444	520	44	477	10, 503	5, 575	1945
77	- 100	177	885	396	630	162	468	10, 651	5, 678	1946
94	- 51	146	729	321	881	429	452	10, 952	5, 974	1947
95	- 31	126	632	279	862	410	452	11, 424	6, 393	1948
88	- 28	116	578	250	760	300	460	11, 874	6, 748	1949
82	- 17	99	494	227	664	208	456	12, 173	7, 002	1950
94	7	89	444	221	959	497	463	12, 604	7, 354	1951
107	15	92	459	232	1, 144	654	491	13, 313	7, 929	1952
109	14	94	472	246	1, 110	590	521	14, 085	8, 551	1953
97	—	97	484	254	933	384	549	14, 793	9, 037	1954
102	3	100	499	255	1, 040	464	577	15, 489	9, 460	1955
131	25	106	528	269	1, 454	839	616	16, 432	10, 112	1956
132	21	112	559	292	1, 479	817	662	17, 530	10, 940	1957
102	- 12	114	568	296	1, 069	374	695	18, 390	11, 535	1958
113	- 1	114	573	290	1, 094	374	721	19, 074	11, 909	1959
117	—	118	589	289	1, 117	365	752	19, 817	12, 278	1960

TABLE 4. Estimates of Fixed Capital, Flows and Mid-year Stocks, Total Manufacturing, Original Cost Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	56	27	29	1,223	849	59	6	53	1,252	688
1927	87	57	30	1,290	891	73	19	54	1,292	701
1928	122	89	33	1,389	964	74	18	56	1,335	719
1929	131	95	36	1,510	1,056	75	17	58	1,374	737
1930	73	35	38	1,608	1,122	70	11	59	1,408	751
1931	42	2	40	1,659	1,141	44	- 16	60	1,425	748
1932	20	- 20	40	1,680	1,132	22	- 37	59	1,412	722
1933	18	- 22	40	1,689	1,111	19	- 38	57	1,378	684
1934	19	- 21	40	1,697	1,090	24	- 31	55	1,339	650
1935	21	- 19	40	1,706	1,070	36	- 18	54	1,309	625
1936	37	- 3	40	1,724	1,058	36	- 17	53	1,291	608
1937	64	22	42	1,762	1,068	61	8	53	1,288	604
1938	45	3	42	1,802	1,081	56	3	53	1,292	610
1939	34	- 9	43	1,826	1,077	52	- 1	53	1,290	611
1940	85	41	44	1,870	1,093	94	40	54	1,313	630
1941	129	83	46	1,959	1,155	166	109	57	1,393	704
1942	161	112	49	2,086	1,252	151	90	61	1,486	804
1943	85	33	52	2,189	1,326	107	43	64	1,551	870
1944	61	8	53	2,241	1,346	70	4	66	1,590	894
1945	76	22	54	2,292	1,361	95	27	68	1,628	910
1946	132	76	56	2,377	1,410	164	93	71	1,705	970
1947	185	126	59	2,517	1,511	287	209	78	1,872	1,121
1948	180	118	62	2,681	1,633	330	241	89	2,121	1,346
1949	156	90	66	2,834	1,738	313	218	100	2,378	1,576
1950	135	66	69	2,960	1,816	306	196	110	2,612	1,783
1951	268	195	73	3,138	1,947	446	323	123	2,918	2,043
1952	343	264	79	3,413	2,176	539	398	141	3,349	2,403
1953	324	238	86	3,714	2,426	551	389	162	3,834	2,797
1954	288	195	93	3,985	2,645	450	269	181	4,291	3,125
1955	344	245	99	4,267	2,864	509	309	200	4,733	3,415
1956	487	379	108	4,648	3,177	781	555	226	5,340	3,846
1957	520	401	119	5,098	3,567	827	567	260	6,102	4,407
1958	397	270	127	5,493	3,903	591	303	288	6,762	4,842
1959	374	239	135	5,820	4,157	651	338	313	7,327	5,163
1960	354	212	142	6,138	4,383	719	379	340	7,956	5,522

TABLEAU 4. Estimations de capital fixe, flux et stocks de mi-année, total du secteur de la fabrication, en coûts initiaux, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
15	—	15	75	40	128	32	96	2,550	1,577	1926
18	2	16	80	40	178	78	100	2,662	1,632	1927
19	2	17	84	42	214	109	105	2,808	1,725	1928
19	2	17	85	44	224	114	110	2,969	1,837	1929
17	—	17	87	45	160	46	114	3,103	1,918	1930
11	- 6	17	86	42	95	- 21	116	3,170	1,932	1931
6	- 10	16	78	34	47	- 67	114	3,170	1,888	1932
5	- 8	13	65	25	42	- 68	110	3,131	1,820	1933
6	- 4	10	51	19	50	- 56	106	3,087	1,758	1934
9	1	8	41	17	67	- 35	102	3,056	1,712	1935
9	2	7	36	18	83	- 18	101	3,051	1,685	1936
16	8	8	40	23	140	38	102	3,091	1,695	1937
15	5	10	49	29	116	11	105	3,143	1,720	1938
13	1	12	57	32	98	- 9	107	3,174	1,720	1939
96	75	21	104	71	274	156	118	3,287	1,794	1940
135	93	42	210	156	430	285	145	3,562	2,015	1941
134	67	67	333	234	445	269	176	3,904	2,291	1942
85	—	85	427	268	277	76	201	4,167	2,464	1943
80	- 19	99	496	258	212	- 6	218	4,328	2,498	1944
110	2	108	536	249	280	51	229	4,456	2,520	1945
41	- 58	99	496	221	337	111	226	4,578	2,601	1946
56	- 26	82	410	179	528	309	219	4,799	2,811	1947
62	- 10	72	360	161	573	350	223	5,162	3,140	1948
61	- 7	68	329	153	536	302	234	5,550	3,467	1949
62	1	61	305	150	503	263	240	5,877	3,749	1950
80	20	60	302	160	793	537	256	6,357	4,149	1951
90	23	67	337	181	972	685	287	7,099	4,760	1952
94	20	74	370	202	968	646	322	7,918	5,425	1953
84	4	80	398	214	822	468	354	8,674	5,985	1954
92	7	85	424	220	946	562	384	9,425	6,499	1955
124	32	92	462	240	1,394	967	427	10,450	7,263	1956
132	31	101	506	272	1,479	999	480	11,706	8,246	1957
105	- 1	106	533	287	1,094	572	522	12,788	9,032	1958
119	8	111	556	290	1,144	585	559	13,704	9,610	1959
127	9	118	591	298	1,200	599	601	14,685	10,202	1960

TABLE 5. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Food and Beverages, Current Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	3	- 1	3	168	108	8	1	7	202	113
1927	4	1	4	173	109	9	2	7	204	113
1928	10	6	4	180	114	10	2	7	212	116
1929	14	10	4	200	127	13	6	8	219	120
1930	7	3	4	204	130	10	3	7	208	115
1931	7	3	4	197	125	5	- 1	7	196	107
1932	5	1	4	192	121	3	- 4	7	192	103
1933	1	- 3	4	185	116	2	- 4	6	185	97
1934	2	- 2	4	184	113	4	- 3	7	196	101
1935	4	—	4	186	113	5	- 2	7	203	103
1936	5	2	4	190	114	6	- 2	7	210	105
1937	8	4	4	207	124	10	2	8	238	118
1938	8	4	4	212	127	12	3	8	244	121
1939	8	3	4	216	130	11	2	8	248	124
1940	11	6	4	226	136	12	3	9	268	135
1941	10	5	5	252	152	14	4	10	294	151
1942	8	3	5	274	164	11	—	11	309	160
1943	6	—	6	294	174	8	- 3	11	312	160
1944	11	5	6	306	180	11	—	11	316	159
1945	18	12	6	323	190	16	6	11	309	155
1946	25	18	7	361	216	28	18	11	314	162
1947	33	24	8	431	263	50	37	13	382	208
1948	32	22	10	516	320	56	40	16	468	270
1949	28	16	11	567	355	51	32	19	542	326
1950	26	14	12	619	388	49	29	20	593	370
1951	28	14	14	723	454	51	29	22	653	418
1952	27	11	16	790	495	51	27	24	697	454
1953	26	9	17	837	524	59	33	26	757	500
1954	39	22	17	857	538	66	37	28	822	546
1955	38	20	18	904	571	65	34	31	898	597
1956	33	13	19	973	615	76	42	34	1,000	667
1957	36	16	20	1,034	652	81	42	38	1,112	745
1958	40	19	22	1,078	680	86	44	41	1,199	807
1959	45	23	23	1,142	720	87	43	44	1,285	868
1960	52	28	24	1,212	766	98	50	48	1,386	934

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 29 "
Capital items charged to operating expenses = 5 "

TABLEAU 5. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, aliments et boissons, en dollars courants, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
2	—	2	10	4	12	—	12	380	226	1926
2	—	2	9	4	15	3	12	386	226	1927
2	—	2	8	4	22	9	13	400	234	1928
3	1	2	9	5	29	16	13	427	252	1929
2	—	2	9	5	20	7	13	421	249	1930
1	- 1	2	9	5	14	1	12	403	237	1931
1	- 1	2	8	4	9	- 3	12	392	228	1932
1	- 1	1	7	3	3	- 8	12	377	216	1933
1	- 1	1	6	2	6	- 6	12	387	217	1934
1	—	1	5	2	10	- 2	12	394	218	1935
1	—	1	5	2	12	—	12	404	221	1936
2	1	1	6	3	21	8	13	451	245	1937
2	1	1	7	4	22	8	14	462	253	1938
2	—	2	8	4	20	6	14	471	258	1939
10	7	3	13	8	33	16	16	506	280	1940
11	6	5	24	16	35	15	20	570	319	1941
10	3	7	34	22	30	7	23	617	346	1942
8	- 1	8	40	24	22	- 3	25	646	358	1943
11	1	9	47	24	33	6	26	669	363	1944
15	4	10	51	26	49	22	27	683	371	1945
6	- 4	10	49	25	59	31	28	725	403	1946
8	- 2	10	51	25	91	59	32	864	497	1947
9	- 2	11	55	26	97	60	38	1,040	616	1948
8	- 3	11	57	25	87	46	41	1,166	705	1949
8	- 2	11	54	24	84	40	44	1,266	783	1950
9	- 2	10	53	25	88	40	47	1,428	897	1951
9	- 2	10	50	24	86	36	50	1,537	973	1952
10	—	10	49	23	95	42	52	1,643	1,048	1953
11	1	10	48	24	115	60	55	1,727	1,108	1954
11	1	10	51	26	115	55	59	1,852	1,194	1955
12	1	11	55	29	121	56	65	2,028	1,311	1956
13	1	12	60	31	130	59	71	2,206	1,428	1957
14	1	13	65	33	140	64	76	2,342	1,520	1958
14	1	13	67	34	147	66	80	2,494	1,623	1959
15	1	14	71	36	166	80	86	2,669	1,736	1960

Vie présumée:

Construction de bâtiments	= 50 ans
Travaux de génie	= 55 "
Machines et outillage	= 29 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 6. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Food and Beverages, Constant 1949 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	4	- 1	5	274	176	13	2	11	324	182
1927	7	2	6	279	176	15	3	12	333	184
1928	15	10	6	289	182	16	4	12	343	188
1929	21	15	6	306	194	21	9	12	354	194
1930	12	5	6	320	204	18	5	13	366	201
1931	12	5	7	330	210	10	- 3	13	371	202
1932	9	2	7	336	213	6	- 7	13	368	198
1933	1	- 5	7	338	211	4	- 8	12	361	190
1934	3	- 4	7	336	207	7	- 6	12	355	183
1935	6	—	7	337	205	9	- 3	12	352	179
1936	10	3	7	342	206	9	- 3	12	352	176
1937	14	8	7	352	211	16	3	12	355	176
1938	13	6	7	362	218	18	5	12	362	180
1939	13	6	7	372	224	16	4	13	369	185
1940	18	10	8	385	232	17	4	13	374	189
1941	15	7	8	399	241	18	5	13	378	193
1942	13	4	8	411	247	13	—	13	380	196
1943	9	—	8	420	249	10	- 3	13	380	194
1944	15	6	8	430	252	14	1	13	383	193
1945	25	16	9	448	264	21	7	14	392	197
1946	32	23	10	474	284	37	23	14	411	212
1947	39	29	10	508	309	58	43	16	449	245
1948	33	23	11	541	335	60	43	17	498	288
1949	28	16	11	567	355	51	32	19	542	326
1950	25	13	12	589	369	47	28	20	571	356
1951	24	11	12	608	382	47	26	21	597	382
1952	21	8	12	624	392	46	24	22	625	408
1953	20	7	13	638	399	51	28	23	657	434
1954	30	16	13	654	411	56	32	24	699	464
1955	29	15	14	676	427	54	28	26	744	494
1956	23	9	14	695	439	60	33	27	787	525
1957	25	11	14	712	450	60	32	29	832	557
1958	28	13	14	732	461	63	32	30	875	589
1959	30	15	15	756	475	62	31	32	918	621
1960	34	18	16	778	492	69	35	33	970	654

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 29 "
Capital items charged to operating expenses = 5 "

TABLEAU 6. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, aliments et boissons, en dollars constants de 1949, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
2	– 1	3	16	7	20	–	20	613	365	1926
3	–	3	14	6	25	5	20	626	367	1927
4	1	3	14	7	35	14	20	645	376	1928
4	2	3	14	8	46	25	21	674	396	1929
4	1	3	16	9	33	11	22	702	414	1930
2	– 1	3	17	9	24	1	23	717	421	1931
1	– 2	3	16	7	16	– 7	23	721	418	1932
1	– 2	3	14	6	6	– 16	22	713	407	1933
1	– 1	2	11	4	11	– 10	21	702	394	1934
2	–	2	9	4	18	– 3	21	699	387	1935
2	–	2	8	4	20	–	20	702	386	1936
3	1	2	8	5	33	12	21	715	392	1937
3	1	2	10	6	34	12	22	735	404	1938
3	1	2	12	7	32	10	22	753	415	1939
13	10	4	18	12	49	25	24	777	432	1940
14	8	6	30	21	48	21	27	807	455	1941
12	4	8	42	27	39	9	30	832	470	1942
9	– 1	10	49	29	28	– 4	31	848	472	1943
13	2	12	57	29	42	9	33	870	475	1944
19	6	13	65	33	64	29	35	904	494	1945
8	– 5	13	64	33	78	41	37	950	529	1946
10	– 2	12	60	30	107	70	38	1,016	584	1947
10	– 2	12	59	28	103	63	40	1,098	651	1948
8	– 3	11	57	25	87	46	41	1,166	705	1949
8	– 2	10	49	23	80	39	41	1,209	748	1950
7	– 2	9	44	21	78	36	42	1,249	785	1951
7	– 1	8	42	20	74	31	42	1,291	819	1952
8	–	8	39	19	79	36	43	1,334	852	1953
9	1	8	39	20	94	49	45	1,392	894	1954
8	1	8	39	20	91	44	47	1,459	941	1955
9	1	8	40	21	92	43	49	1,522	985	1956
9	1	8	42	22	94	43	51	1,586	1,028	1957
9	–	9	44	22	99	46	53	1,650	1,073	1958
10	1	9	45	23	102	46	56	1,717	1,119	1959
10	1	9	46	24	112	54	58	1,794	1,169	1960

Vie présumée:

Construction de bâtiments	=	50 ans
Travaux de génie	=	55 "
Machines et outillage	=	29 "
Biens-capitaux imputés sur les dépenses d'exploitation	=	5 "

TABLE 7. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Food and Beverages, Constant 1957 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	6	- 2	8	398	256	17	2	15	432	243
1927	10	2	8	404	256	20	4	15	445	246
1928	22	14	8	419	264	21	5	16	458	251
1929	29	20	9	444	282	28	12	16	474	260
1930	17	7	9	465	296	24	7	17	489	269
1931	18	8	9	478	304	14	- 3	17	496	270
1932	12	2	10	488	309	8	- 9	17	492	264
1933	2	- 7	10	490	307	5	- 11	17	483	254
1934	4	- 6	10	488	300	9	- 7	16	475	244
1935	9	- 1	10	490	297	12	- 4	16	471	239
1936	14	4	10	497	299	12	- 4	16	470	235
1937	21	10	10	510	306	21	5	16	475	235
1938	19	9	10	526	316	23	7	17	484	241
1939	19	8	10	540	325	22	5	17	493	247
1940	26	15	11	558	336	23	6	17	500	252
1941	22	10	11	579	349	24	7	17	505	258
1942	18	6	12	596	358	18	—	18	508	262
1943	13	—	12	609	362	13	- 4	18	507	260
1944	22	9	12	624	367	18	1	18	512	258
1945	37	23	13	650	383	28	9	18	524	263
1946	47	33	14	688	412	50	31	19	550	283
1947	57	42	15	737	449	78	58	21	600	328
1948	49	33	16	785	486	80	58	23	667	385
1949	40	24	16	824	515	68	43	25	724	435
1950	36	19	17	855	536	63	37	26	763	476
1951	35	17	18	882	554	62	35	28	799	511
1952	30	12	18	906	568	61	32	29	836	545
1953	29	10	18	925	580	68	38	30	878	580
1954	43	24	19	950	597	75	42	32	935	620
1955	42	22	20	981	620	72	38	34	994	660
1956	34	14	20	1,009	638	80	44	36	1,052	701
1957	37	16	21	1,034	652	81	42	38	1,112	745
1958	40	19	21	1,062	670	84	43	40	1,170	788
1959	44	22	22	1,094	690	84	41	42	1,228	830
1960	48	26	22	1,130	714	92	47	45	1,297	874

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 29 "
Capital items charged to operating expenses = 5 "

TABLEAU 7. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, aliments et boissons, en dollars constants de 1957, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
3	- 1	5	23	10	27	—	28	853	508	1926
4	—	4	21	9	34	7	28	870	512	1927
5	1	4	20	10	48	20	28	897	525	1928
6	2	4	20	12	65	35	29	938	553	1929
6	1	5	23	13	46	15	31	977	578	1930
3	- 2	5	25	13	34	3	31	999	587	1931
2	- 3	5	23	10	22	- 9	31	1,004	584	1932
2	- 2	4	20	8	9	- 21	30	994	569	1933
2	- 2	3	16	6	15	- 14	29	979	551	1934
3	1	3	13	6	25	- 4	29	974	542	1935
2	—	2	11	6	29	—	28	979	540	1936
4	2	2	12	7	46	17	29	997	549	1937
4	2	3	15	8	47	17	30	1,025	566	1938
4	1	4	17	10	45	14	31	1,050	581	1939
19	14	5	26	17	69	35	34	1,084	606	1940
21	12	9	44	30	67	29	38	1,128	638	1941
18	6	12	60	39	54	13	41	1,163	659	1942
13	- 1	14	71	41	39	- 5	44	1,187	663	1943
19	2	16	82	42	59	13	47	1,218	667	1944
27	8	19	93	47	91	41	50	1,267	694	1945
11	- 7	18	92	48	108	57	51	1,331	743	1946
14	- 3	17	86	43	149	96	52	1,423	819	1947
14	- 3	17	85	40	143	87	56	1,536	911	1948
12	- 4	16	82	36	121	63	58	1,629	986	1949
11	- 3	14	71	32	110	53	58	1,689	1,044	1950
10	- 2	12	62	30	107	49	58	1,744	1,095	1951
10	- 2	12	60	28	102	43	59	1,801	1,141	1952
12	—	11	57	27	109	49	60	1,860	1,187	1953
12	1	11	56	28	130	68	62	1,941	1,245	1954
12	1	11	56	29	126	61	65	2,032	1,309	1955
13	1	12	58	30	127	59	68	2,118	1,369	1956
13	1	12	60	31	130	59	71	2,206	1,428	1957
13	1	13	63	32	137	63	74	2,295	1,489	1958
14	1	13	64	33	141	64	77	2,386	1,552	1959
14	1	13	66	34	155	74	80	2,492	1,621	1960

Vie présumée:

Construction de bâtiments = 50 ans
Travaux de génie = 55 "
Machines et outillage = 29 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 8. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Food and Beverages, Original Cost Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	2	—	2	118	85	7	2	5	157	102
1927	4	2	2	121	87	9	3	6	165	105
1928	10	7	3	128	91	10	4	6	172	108
1929	14	11	3	139	100	13	7	6	181	114
1930	7	4	3	149	108	10	3	7	190	119
1931	7	4	3	155	112	6	- 1	7	195	120
1932	5	2	3	160	115	3	- 4	7	196	117
1933	1	- 2	3	162	114	2	- 5	7	195	113
1934	1	- 2	3	162	112	4	- 3	7	194	109
1935	3	—	3	164	112	6	- 1	7	195	107
1936	5	2	3	168	113	6	- 1	7	197	106
1937	9	5	4	174	116	11	4	7	202	107
1938	8	4	4	181	121	12	5	7	210	111
1939	8	4	4	188	125	12	4	8	217	115
1940	11	7	4	196	130	13	5	8	225	119
1941	10	6	4	206	136	14	6	8	234	124
1942	8	4	4	214	141	11	3	8	241	129
1943	6	2	4	221	144	8	—	8	246	130
1944	10	6	4	229	148	12	3	9	253	131
1945	18	13	5	243	158	16	7	9	263	136
1946	25	20	5	264	174	29	19	10	280	149
1947	33	27	6	292	198	50	39	11	312	178
1948	31	25	6	324	224	56	44	12	359	219
1949	28	21	7	353	247	51	37	14	403	260
1950	26	18	8	378	266	49	34	15	438	295
1951	28	20	8	404	286	50	34	16	474	330
1952	27	18	9	430	305	51	33	18	513	364
1953	26	17	9	454	322	59	40	19	557	400
1954	39	29	10	484	345	66	45	21	612	442
1955	38	28	10	520	374	65	42	23	671	486
1956	33	22	11	553	398	76	51	25	734	532
1957	37	25	12	585	421	81	53	28	803	584
1958	40	28	12	622	448	86	56	30	875	639
1959	45	32	13	662	478	88	55	33	950	694
1960	52	38	14	708	513	98	62	36	1,035	752

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 29 "
Capital items charged to operating expenses = 5 "

TABLEAU 8. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, aliments et boissons, en coûts initiaux, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
1	- 1	2	10	4	12	2	10	285	192	1926
2	—	2	9	4	15	5	10	295	195	1927
2	—	2	9	4	21	11	10	308	204	1928
3	1	2	9	5	29	18	11	329	218	1929
2	—	2	10	6	19	8	11	349	232	1930
1	- 1	2	10	5	14	2	12	361	237	1931
1	- 1	2	10	4	9	- 3	12	366	236	1932
1	- 1	2	8	3	4	- 8	12	365	230	1933
—	- 1	1	6	2	6	- 5	11	363	224	1934
1	—	1	5	2	10	- 1	11	364	221	1935
1	—	1	4	2	12	1	11	369	221	1936
2	1	1	5	3	20	9	11	381	226	1937
2	1	1	6	4	22	10	12	397	236	1938
2	—	2	8	4	21	8	13	413	244	1939
9	7	2	12	8	33	19	14	434	257	1940
11	7	4	22	15	35	19	16	461	276	1941
10	4	6	31	21	30	11	19	486	290	1942
8	—	8	38	22	21	1	20	505	296	1943
11	2	9	45	23	33	11	22	527	302	1944
14	4	10	52	26	49	25	24	558	320	1945
6	- 4	10	52	27	59	34	25	596	349	1946
9	- 1	10	48	24	91	65	26	653	399	1947
9	- 1	10	48	23	98	69	29	731	466	1948
9	- 1	10	48	22	87	57	30	804	528	1949
9	—	9	44	21	83	52	31	860	583	1950
8	—	8	42	21	88	55	33	920	637	1951
9	—	9	43	22	86	51	35	986	690	1952
10	1	9	44	22	95	58	37	1,055	744	1953
11	2	9	45	24	115	75	40	1,142	811	1954
11	1	10	48	25	115	72	43	1,239	884	1955
12	2	10	51	27	121	75	46	1,337	957	1956
13	2	11	55	29	130	80	50	1,443	1,035	1957
14	2	12	59	31	140	86	54	1,555	1,117	1958
14	2	12	62	33	147	89	58	1,674	1,205	1959
15	2	13	66	35	166	103	63	1,809	1,300	1960

Vie présumée:

Construction de bâtiments	= 50 ans
Travaux de génie	= 55 "
Machines et outillage	= 29 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 9. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Tobacco, Rubber and Leather, Current Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	1	—	1	35	22	1	- 2	3	44	16
1927	1	—	1	36	22	3	1	3	41	16
1928	3	2	1	38	24	3	—	3	38	16
1929	2	2	1	43	27	4	1	2	37	17
1930	2	1	1	43	28	2	—	2	34	16
1931	1	—	1	42	26	1	- 1	2	30	15
1932	—	—	1	40	25	1	- 1	2	27	14
1933	3	2	1	40	25	2	—	2	25	13
1934	—	—	1	41	26	2	—	2	27	14
1935	—	- 1	1	41	25	2	—	2	28	14
1936	16	15	1	50	33	5	3	2	31	16
1937	2	—	1	62	43	2	—	2	37	20
1938	1	—	1	62	43	2	—	2	37	20
1939	1	—	1	62	42	2	—	2	38	20
1940	3	1	1	64	44	2	—	3	41	21
1941	2	1	1	72	48	3	—	3	46	22
1942	2	1	2	78	52	2	- 1	3	47	22
1943	2	—	2	84	55	2	- 1	3	45	21
1944	2	—	2	87	57	3	—	3	43	21
1945	6	4	2	92	60	4	2	3	41	20
1946	7	5	2	104	68	6	3	3	42	22
1947	5	2	2	122	79	12	8	4	54	31
1948	4	1	3	140	90	9	4	5	68	40
1949	3	—	3	149	95	8	3	5	79	47
1950	2	- 1	3	158	99	8	1	6	91	53
1951	3	—	4	182	112	10	3	7	103	62
1952	4	—	4	196	119	11	4	7	105	65
1953	6	2	4	207	124	16	8	8	116	72
1954	6	2	4	210	125	15	7	9	128	80
1955	5	1	4	219	129	17	7	10	146	90
1956	8	4	5	234	137	18	7	11	168	102
1957	9	4	5	248	146	20	8	13	192	115
1958	7	2	5	257	152	16	2	14	214	124
1959	8	2	5	269	158	17	2	15	229	127
1960	10	4	6	282	165	25	8	17	250	136

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 15 "
Capital items charged to operating expenses = 5 "

TABLEAU 9. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, tabacs, caoutchoucs et cuirs, en dollars courants, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
—	—	—	2	1	3	- 1	4	82	39	1926
1	—	—	2	1	5	2	4	79	39	1927
1	—	1	3	2	7	3	4	80	42	1928
1	—	1	3	2	7	3	4	83	46	1929
1	—	1	3	2	5	1	4	80	45	1930
—	—	1	3	2	2	- 1	3	75	42	1931
—	—	1	3	1	2	- 2	3	70	40	1932
—	—	—	2	1	5	2	3	67	39	1933
—	—	—	2	1	2	- 1	3	70	40	1934
—	—	—	2	1	2	- 1	3	71	40	1935
1	—	—	2	1	22	19	3	82	50	1936
1	—	—	3	2	5	—	4	101	65	1937
1	—	1	3	2	4	—	4	102	65	1938
—	—	1	3	2	4	- 1	4	103	64	1939
2	2	1	4	2	7	2	5	110	67	1940
3	2	1	6	4	8	2	6	124	75	1941
2	1	2	8	5	6	—	6	133	80	1942
2	—	2	10	6	6	- 1	7	139	82	1943
2	—	2	11	6	7	—	7	141	83	1944
4	1	2	12	6	14	7	7	145	86	1945
2	- 1	2	12	6	14	7	7	157	96	1946
2	—	2	12	6	19	10	8	188	116	1947
2	- 1	3	13	6	14	4	10	222	138	1948
2	- 1	3	14	6	13	2	11	242	148	1949
2	- 1	2	13	5	11	—	12	262	158	1950
2	—	2	12	5	15	2	13	296	179	1951
2	—	2	11	5	17	4	13	312	188	1952
3	—	2	10	5	24	10	14	334	202	1953
2	—	2	11	6	24	9	15	350	211	1954
3	—	2	12	6	24	8	16	377	226	1955
3	—	3	14	7	29	11	18	415	247	1956
3	—	3	15	8	33	12	21	455	269	1957
3	—	3	16	8	25	3	22	487	283	1958
3	—	3	16	8	28	4	24	514	293	1959
4	—	3	17	8	38	13	26	549	310	1960

Vie présumée:

Construction de bâtiments = 50 ans
Travaux de génie = 55 "
Machines et outillage = 15 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 10. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Tobacco, Rubber and Leather, Constant 1949 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	1	—	1	57	36	2	- 2	5	70	26
1927	2	1	1	58	36	6	1	4	66	25
1928	5	3	1	62	38	5	1	4	62	26
1929	4	2	1	65	41	6	2	4	60	27
1930	3	2	1	68	43	4	—	4	59	28
1931	2	—	1	70	44	2	- 1	4	56	28
1932	1	- 1	1	70	44	2	- 1	4	52	26
1933	5	4	1	73	46	3	—	3	50	25
1934	1	- 1	1	75	47	3	—	3	49	25
1935	—	- 1	1	75	46	3	—	3	49	25
1936	30	28	2	89	59	9	5	3	52	28
1937	3	1	2	105	74	4	—	4	55	30
1938	1	- 1	2	107	74	4	—	4	56	30
1939	2	—	2	108	73	3	- 1	4	57	30
1940	5	2	2	110	74	3	- 1	4	58	29
1941	4	2	2	114	76	4	—	4	59	28
1942	4	1	2	117	78	2	- 2	4	58	27
1943	3	1	2	120	79	2	- 2	4	55	26
1944	3	1	2	123	80	3	—	4	52	25
1945	8	6	2	128	83	6	2	3	52	26
1946	9	6	3	136	89	8	4	4	55	29
1947	5	2	3	143	93	14	10	4	64	36
1948	4	1	3	147	95	9	4	5	73	43
1949	3	—	3	149	95	8	3	5	79	47
1950	2	- 1	3	151	94	7	1	6	84	49
1951	3	—	3	152	94	8	2	6	85	51
1952	3	—	3	155	94	9	3	6	87	54
1953	4	1	3	157	94	12	6	6	94	58
1954	4	1	3	161	96	12	6	7	103	64
1955	4	1	3	164	96	13	5	8	113	70
1956	6	2	3	167	98	13	5	8	123	75
1957	6	3	3	171	101	14	5	9	134	80
1958	4	1	4	175	103	11	1	10	144	83
1959	5	2	4	177	104	11	1	10	152	84
1960	6	3	4	181	106	16	5	11	161	88

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 15 "
Capital items charged to operating expenses = 5 "

TABLEAU 10. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, tabacs, caoutchoucs et cuirs, en dollars constants de 1949, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
1	—	1	4	2	4	- 2	7	132	64	1926
2	1	1	4	2	9	2	6	129	64	1927
1	—	1	5	3	11	4	6	128	67	1928
1	—	1	5	3	11	4	6	130	71	1929
1	—	1	6	3	8	2	6	133	75	1930
1	- 1	1	6	3	4	- 2	6	132	75	1931
—	- 1	1	5	2	3	- 3	6	128	72	1932
1	—	1	4	2	9	3	6	127	73	1933
—	—	1	4	2	4	- 1	5	127	74	1934
1	—	1	3	1	4	- 1	5	127	72	1935
1	1	1	3	2	40	34	6	144	89	1936
1	—	1	4	2	8	1	7	164	106	1937
1	—	1	4	2	6	- 1	7	166	106	1938
1	—	1	4	2	6	- 1	7	169	105	1939
3	2	1	6	3	11	4	7	174	107	1940
4	2	2	8	5	11	3	8	180	110	1941
3	1	2	10	7	9	—	8	185	112	1942
2	—	2	12	7	8	- 1	8	187	112	1943
2	—	3	14	7	9	—	9	188	112	1944
5	2	3	15	8	19	10	9	195	116	1945
2	- 1	3	15	8	19	9	9	207	126	1946
3	—	3	14	7	22	12	10	221	137	1947
2	- 1	3	14	7	15	4	11	234	145	1948
2	- 1	3	14	6	13	2	11	242	148	1949
2	- 1	2	12	5	11	—	11	246	148	1950
2	—	2	10	4	12	2	11	247	149	1951
2	—	2	9	4	14	3	11	251	151	1952
2	—	2	8	4	19	8	11	260	157	1953
2	—	2	9	5	19	7	12	273	165	1954
2	—	2	9	5	19	6	12	286	171	1955
2	—	2	10	5	21	8	14	299	178	1956
2	—	2	10	5	23	8	14	315	186	1957
2	—	2	11	5	17	2	15	329	192	1958
2	—	2	10	5	18	2	16	340	194	1959
2	—	2	11	5	25	8	16	353	199	1960

Vie présumée:

Construction de bâtiments	= 50 ans
Travaux de génie	= 55 "
Machines et outillage	= 15 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 11. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Tobacco, Rubber and Leather, Constant 1957 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	2	—	2	83	52	3	- 4	7	101	37
1927	3	1	2	85	52	8	2	6	95	36
1928	7	5	2	89	55	7	1	6	89	38
1929	6	4	2	95	60	8	3	6	86	39
1930	5	3	2	99	63	6	—	6	85	41
1931	2	—	2	102	64	4	- 2	5	81	40
1932	1	- 1	2	102	64	3	- 2	5	75	38
1933	8	6	2	106	66	4	—	5	71	36
1934	1	- 1	2	109	68	4	- 1	5	70	36
1935	—	- 2	2	109	66	5	—	5	70	36
1936	43	40	3	130	86	13	8	5	74	40
1937	4	1	3	153	107	5	—	5	79	43
1938	2	- 1	3	155	107	5	—	5	80	43
1939	3	—	3	156	107	4	- 1	5	81	43
1940	7	4	3	160	108	5	- 1	6	83	42
1941	6	2	3	165	111	5	- 1	6	84	41
1942	5	2	3	170	113	3	- 2	6	83	39
1943	4	1	3	174	115	3	- 2	5	78	37
1944	5	1	4	178	116	5	—	5	75	36
1945	12	8	4	186	120	8	3	5	74	37
1946	13	9	4	198	129	11	6	5	79	42
1947	8	4	4	208	135	20	14	6	92	52
1948	5	1	4	213	138	13	6	7	105	62
1949	4	—	4	217	138	12	5	8	113	67
1950	3	- 1	4	219	137	10	2	8	120	71
1951	4	—	4	222	136	11	3	8	122	73
1952	4	—	4	224	136	13	4	8	125	77
1953	7	2	4	228	137	18	9	9	135	84
1954	6	2	5	233	139	18	8	10	148	92
1955	6	1	5	237	140	18	8	11	162	100
1956	8	4	5	242	142	19	7	12	176	108
1957	9	4	5	248	146	20	8	13	192	115
1958	6	2	5	254	149	15	2	14	207	120
1959	7	2	5	258	151	16	2	15	218	121
1960	9	4	5	263	154	23	8	15	232	126

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 15 "
Capital items charged to operating expenses = 5 "

TABLEAU 11. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, tabacs, caoutchoucs et cuirs, en dollars constants de 1957, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
1	—	1	5	3	6	– 3	9	190	92	1926
2	1	1	6	3	13	3	9	186	92	1927
2	1	1	7	4	16	7	9	185	97	1928
2	—	2	8	4	16	6	9	188	103	1929
2	—	2	8	4	12	3	9	192	108	1930
1	– 1	2	9	4	6	– 3	9	191	108	1931
1	– 1	2	8	3	5	– 4	9	185	105	1932
1	—	1	6	2	13	5	8	183	105	1933
1	—	1	5	2	6	– 2	8	184	106	1934
1	—	1	4	2	6	– 2	8	183	104	1935
2	1	1	4	3	58	49	8	208	128	1936
1	—	1	6	3	11	2	9	237	154	1937
1	—	1	6	3	9	– 1	10	241	154	1938
1	—	1	6	3	8	– 2	10	244	153	1939
5	3	2	8	5	16	6	10	251	155	1940
5	3	2	12	8	16	4	11	261	160	1941
4	1	3	15	10	12	1	12	267	162	1942
4	—	4	17	10	11	– 1	12	270	162	1943
3	– 1	4	20	10	13	—	12	272	161	1944
7	3	4	22	11	27	14	13	282	168	1945
3	– 1	4	22	11	27	14	14	299	182	1946
4	—	4	21	11	32	18	14	320	198	1947
3	– 1	4	20	10	21	6	15	338	209	1948
2	– 2	4	20	8	18	3	16	350	214	1949
2	– 1	3	17	7	15	—	16	356	215	1950
2	—	3	14	6	18	3	15	357	216	1951
3	—	2	13	6	20	4	15	362	219	1952
3	1	2	12	6	28	12	16	376	227	1953
3	—	2	13	7	27	10	17	394	238	1954
3	—	3	13	7	27	9	18	413	247	1955
3	—	3	14	7	31	11	19	433	257	1956
3	—	3	15	8	33	12	21	455	269	1957
3	—	3	15	8	24	3	22	475	277	1958
3	—	3	15	8	26	4	23	491	280	1959
4	—	3	15	8	36	12	24	510	288	1960

Vie présumée:

Construction de bâtiments	= 50 ans
Travaux de génie	= 55 "
Machines et outillage	= 15 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 12. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Tobacco, Rubber and Leather, Original Cost Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	—	—	—	22	16	1	- 1	2	36	16
1927	1	1	—	23	16	3	1	2	35	16
1928	2	2	—	25	17	3	1	2	35	17
1929	2	2	—	28	20	3	1	2	36	17
1930	3	2	1	30	21	2	—	2	37	18
1931	1	—	1	31	22	1	- 1	2	36	17
1932	1	—	1	32	22	1	- 1	2	34	16
1933	3	2	1	33	23	1	- 1	2	32	15
1934	1	—	1	35	24	2	—	2	30	15
1935	—	- 1	1	35	24	2	—	2	30	14
1936	17	16	1	43	31	5	3	2	31	16
1937	2	1	1	52	39	2	—	2	33	18
1938	1	—	1	53	40	2	—	2	33	18
1939	1	—	1	54	40	2	—	2	34	18
1940	3	2	1	56	40	2	—	2	35	18
1941	2	1	1	58	42	2	—	2	36	18
1942	2	1	1	60	43	1	- 1	2	36	18
1943	2	1	1	62	44	1	- 1	2	34	17
1944	2	1	1	64	45	2	—	2	33	17
1945	5	4	1	69	48	4	2	2	34	18
1946	7	5	2	75	53	6	4	2	38	21
1947	5	3	2	80	57	12	9	3	45	28
1948	4	2	2	84	59	9	5	4	54	34
1949	3	1	2	87	61	8	4	4	61	39
1950	2	—	2	89	61	7	3	4	68	43
1951	4	2	2	92	62	10	5	5	72	47
1952	4	2	2	95	64	11	6	5	79	52
1953	6	4	2	100	66	16	10	6	90	59
1954	6	4	2	105	72	16	9	7	103	68
1955	5	3	2	110	74	17	9	8	117	77
1956	8	6	2	116	78	18	9	9	132	86
1957	9	7	2	125	85	20	10	10	149	96
1958	7	4	3	132	90	16	5	11	165	104
1959	8	5	3	138	95	17	5	12	179	109
1960	10	7	3	146	100	25	12	13	196	117

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 15 "
Capital items charged to operating expenses = 5 "

TABLEAU 12. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, tabacs, caoutchoucs et cuirs, en coûts initiaux, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
—	—	—	2	1	2	- 1	3	61	32	1926
—	—	—	3	1	5	2	3	61	33	1927
1	—	1	3	2	7	3	4	64	36	1928
1	—	1	3	2	7	3	4	67	39	1929
1	—	1	4	2	5	1	4	70	41	1930
1	—	1	4	2	3	- 1	4	71	41	1931
1	—	1	3	1	1	- 2	3	69	40	1932
—	—	—	2	1	5	2	3	67	39	1933
—	—	—	2	1	2	- 1	3	67	40	1934
—	—	—	2	1	2	- 1	3	66	39	1935
—	—	—	2	1	22	19	3	76	48	1936
—	—	—	2	1	5	1	4	87	58	1937
—	—	—	3	2	4	—	4	89	59	1938
1	—	1	3	2	4	—	4	91	59	1939
3	2	1	4	2	7	3	4	94	60	1940
3	2	1	6	4	8	3	5	100	64	1941
3	1	2	8	5	6	1	5	104	66	1942
2	—	2	9	6	5	—	5	106	67	1943
2	—	2	11	5	8	2	6	108	68	1944
3	1	2	12	6	14	8	6	115	72	1945
1	- 1	2	12	6	14	8	6	124	80	1946
2	—	2	12	6	19	12	7	137	90	1947
2	—	2	12	6	14	6	8	150	99	1948
1	- 1	2	11	5	13	5	8	160	105	1949
2	—	2	10	5	11	3	8	167	109	1950
2	—	2	9	4	14	6	8	174	113	1951
2	—	2	9	5	17	8	9	183	120	1952
3	1	2	10	5	24	14	10	199	130	1953
2	—	2	10	6	24	13	11	218	146	1954
2	—	2	11	6	24	12	12	238	157	1955
2	—	2	12	7	30	16	14	260	171	1956
4	1	3	14	7	33	18	15	287	188	1957
3	—	3	14	7	25	9	16	311	202	1958
3	—	3	15	8	28	10	18	332	211	1959
4	1	3	15	8	38	19	19	358	226	1960

Vie présumée:

Construction de bâtiments = 50 ans
Travaux de génie = 55 "
Machines et outillage = 15 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 13. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Textile Products, Current Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	5	2	3	138	75	2	- 1	4	92	45
1927	6	3	3	142	78	7	4	4	93	46
1928	1	- 3	3	143	79	8	4	4	98	50
1929	1	- 2	3	147	80	5	1	4	102	52
1930	7	4	3	145	79	3	- 1	4	95	48
1931	2	- 1	3	138	76	11	7	4	92	48
1932	1	- 2	3	130	70	3	- 1	4	95	50
1933	1	- 2	3	124	66	4	—	4	94	49
1934	1	- 2	3	123	64	5	1	4	103	53
1935	3	—	3	123	63	7	3	4	110	57
1936	1	- 1	3	124	63	5	1	4	116	61
1937	3	—	3	132	66	6	1	5	131	70
1938	1	- 2	3	132	64	5	—	5	130	71
1939	1	- 2	3	130	62	5	—	5	128	71
1940	3	—	3	132	62	10	5	5	137	78
1941	3	—	3	144	67	9	3	6	153	89
1942	2	- 2	3	152	69	5	- 1	6	162	94
1943	1	- 3	4	158	71	2	- 4	6	160	92
1944	2	- 2	4	159	70	5	- 1	6	160	89
1945	1	- 2	4	159	68	8	2	6	157	85
1946	8	5	4	169	73	16	10	6	161	89
1947	11	7	4	195	88	26	18	8	198	113
1948	6	2	5	224	103	29	20	9	244	145
1949	7	2	5	237	109	25	14	11	284	172
1950	7	1	6	251	116	21	8	13	330	200
1951	10	4	6	287	134	29	15	14	357	217
1952	7	—	7	307	145	24	10	15	380	230
1953	8	1	7	319	150	20	4	16	406	244
1954	8	—	7	318	151	21	5	16	427	258
1955	8	—	7	324	154	20	3	17	449	270
1956	10	3	8	336	163	28	9	19	488	290
1957	8	—	8	343	171	31	12	20	509	305
1958	3	- 5	8	337	171	21	- 1	21	558	335
1959	5	- 3	8	336	172	18	- 4	23	589	344
1960	6	- 2	8	340	175	21	- 4	25	656	374

Assumed Life:

Building construction = 45 years
Engineering construction = 50 "
Machinery and equipment = 26 "
Capital items charged to operating expenses = 5 "

TABLEAU 13. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, textiles, en dollars courants, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
1	—	1	3	2	8	1	7	234	122	1926
2	1	1	4	2	15	8	8	239	126	1927
2	1	1	5	3	10	2	8	246	132	1928
1	—	1	6	3	7	- 1	8	255	136	1929
1	—	1	5	3	11	3	8	245	130	1930
2	—	1	6	3	14	6	8	236	126	1931
—	- 1	1	5	3	4	- 4	8	231	123	1932
1	—	1	5	2	5	- 2	7	222	117	1933
1	—	1	5	2	6	- 1	8	230	119	1934
1	—	1	5	2	11	3	8	238	123	1935
1	—	1	5	3	8	- 1	8	245	127	1936
1	—	1	6	3	10	1	9	269	139	1937
1	—	1	6	3	8	- 2	9	268	138	1938
1	—	1	6	3	7	- 2	9	264	136	1939
9	7	2	11	7	23	13	10	280	146	1940
8	4	4	19	13	20	7	13	317	169	1941
6	1	5	26	17	13	- 2	15	340	180	1942
3	- 3	6	29	16	6	- 10	16	348	178	1943
4	- 2	6	32	14	11	- 5	16	351	172	1944
7	1	6	30	13	16	—	16	346	166	1945
3	- 2	5	25	12	28	13	15	355	174	1946
4	- 1	5	24	12	41	24	17	417	212	1947
5	—	5	25	12	40	21	20	494	260	1948
4	- 1	5	27	12	36	15	22	548	294	1949
4	- 1	5	26	12	31	8	24	608	329	1950
5	- 1	5	26	12	44	18	25	670	363	1951
4	- 1	5	25	12	36	9	26	713	386	1952
4	- 1	5	23	11	32	4	27	748	406	1953
4	- 1	4	21	10	32	4	28	766	418	1954
4	—	4	21	10	32	3	29	793	434	1955
4	—	4	21	10	43	12	30	845	463	1956
5	—	4	22	11	44	12	32	874	487	1957
4	- 1	4	22	11	27	- 6	33	917	517	1958
3	- 1	4	22	11	26	- 8	34	946	527	1959
4	- 1	4	22	10	31	- 6	37	1,017	559	1960

Vie présumée:

Construction de bâtiments	= 45 ans
Travaux de génie	= 50 "
Machines et outillage	= 26 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 14. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Textile Products, Constant 1949 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	8	3	5	224	122	4	- 2	6	148	72
1927	10	5	5	228	126	12	6	6	151	74
1928	1	- 4	5	228	126	13	6	6	159	80
1929	2	- 3	5	225	123	7	1	6	165	84
1930	11	6	5	227	124	5	- 1	6	167	84
1931	3	- 2	5	230	126	20	13	7	175	91
1932	2	- 3	5	228	123	5	- 2	7	182	96
1933	2	- 3	5	226	120	7	—	7	183	95
1934	1	- 4	5	223	116	9	2	7	186	96
1935	5	—	5	222	114	12	5	7	191	99
1936	2	- 3	5	223	113	9	1	8	195	103
1937	4	—	5	223	112	9	2	8	196	104
1938	2	- 3	5	224	110	7	—	7	194	105
1939	1	- 4	5	224	107	7	—	7	190	105
1940	6	1	5	225	105	14	7	7	191	109
1941	5	—	5	227	105	11	4	8	197	114
1942	2	- 3	5	228	104	6	- 2	8	198	115
1943	1	- 4	5	226	101	2	- 5	8	195	111
1944	2	- 2	5	223	97	6	- 2	8	194	108
1945	2	- 3	5	220	95	10	2	8	199	108
1946	11	6	5	222	96	21	13	8	210	116
1947	13	8	5	230	103	30	21	9	232	133
1948	7	2	5	235	108	31	21	10	260	154
1949	7	2	5	237	109	25	14	11	284	172
1950	6	1	5	239	111	19	7	12	301	182
1951	8	3	5	241	113	26	14	12	319	193
1952	6	—	5	243	114	22	9	13	338	204
1953	6	1	5	243	115	17	4	13	350	211
1954	6	—	5	243	115	18	4	14	355	214
1955	6	—	5	242	115	16	2	14	362	218
1956	7	2	5	240	117	22	7	14	374	222
1957	6	—	5	236	118	24	9	15	384	230
1958	2	- 3	5	229	116	14	—	15	391	235
1959	3	- 2	5	222	114	12	- 3	15	398	233
1960	4	- 1	5	218	112	13	- 2	16	403	230

Assumed Life:

Building construction = 45 years
Engineering construction = 50 "
Machinery and equipment = 26 "
Capital items charged to operating expenses = 5 "

TABLEAU 14. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, textiles, en dollars constants de 1949, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
1	—	1	5	3	13	1	12	377	197	1926
2	1	1	6	4	24	12	12	386	204	1927
3	1	2	8	5	16	3	13	395	212	1928
3	—	2	9	5	11	- 2	13	399	212	1929
2	—	2	9	5	18	4	13	403	214	1930
3	1	2	10	5	26	12	14	415	222	1931
1	- 1	2	10	5	8	- 6	14	421	224	1932
1	—	2	9	4	10	- 4	14	418	219	1933
2	—	2	8	4	11	- 2	14	417	216	1934
2	—	2	9	4	20	6	14	422	218	1935
2	—	2	8	4	13	- 1	14	426	220	1936
2	—	2	8	5	16	2	14	427	220	1937
2	—	2	9	5	12	- 3	14	427	220	1938
2	—	2	9	5	10	- 4	14	423	216	1939
13	10	3	15	10	33	18	15	431	223	1940
10	5	5	24	17	26	9	18	449	236	1941
8	2	6	32	21	16	- 3	19	458	239	1942
4	- 3	7	36	20	7	- 12	20	456	232	1943
5	- 3	8	38	17	13	- 7	20	456	222	1944
8	1	8	38	16	20	—	20	457	219	1945
4	- 2	6	33	15	36	17	20	465	227	1946
5	- 1	6	28	14	48	28	20	490	250	1947
5	—	5	27	13	43	22	21	522	275	1948
4	- 1	5	27	12	36	15	22	548	294	1949
4	- 1	5	24	11	29	7	22	564	304	1950
4	—	4	22	10	38	16	22	582	316	1951
3	- 1	4	21	10	31	8	22	602	328	1952
3	- 1	4	19	9	26	4	23	612	334	1953
3	- 1	3	17	8	26	4	22	615	338	1954
3	—	3	16	8	25	2	22	620	341	1955
3	—	3	16	8	32	9	23	630	347	1956
3	—	3	15	8	33	10	23	636	356	1957
2	—	3	15	8	19	- 4	23	634	358	1958
2	- 1	3	15	7	18	- 6	23	634	354	1959
2	—	3	14	7	19	- 4	23	635	349	1960

Vie présumée:

Construction de bâtiments	= 45 ans
Travaux de génie	= 50 "
Machines et outillage	= 26 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 15. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Textile Products, Constant 1957 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	11	4	7	326	177	5	- 2	8	195	95
1927	15	7	7	332	183	16	8	8	200	98
1928	1	- 6	7	331	183	17	9	8	211	107
1929	3	- 4	7	326	178	10	1	8	218	112
1930	16	8	7	330	180	7	- 1	8	221	112
1931	4	- 3	7	334	183	26	18	9	231	120
1932	2	- 5	7	331	179	7	- 2	9	242	128
1933	2	- 5	7	328	174	9	—	9	243	126
1934	2	- 6	7	324	169	12	2	10	246	127
1935	7	—	7	323	166	16	7	10	252	132
1936	3	- 4	7	323	164	12	2	10	258	136
1937	6	- 1	7	324	162	12	2	10	259	138
1938	4	- 4	7	326	160	10	—	10	257	139
1939	2	- 6	7	325	155	10	—	10	251	139
1940	8	1	7	326	152	19	9	10	253	144
1941	7	—	7	330	153	15	5	10	261	151
1942	3	- 4	7	331	151	8	- 2	10	263	152
1943	2	- 6	7	328	146	3	- 7	10	258	147
1944	4	- 4	7	324	141	8	- 2	10	257	143
1945	3	- 4	7	320	137	13	3	10	263	143
1946	16	9	7	323	140	28	17	11	278	153
1947	19	11	7	333	150	40	28	12	308	176
1948	10	2	8	341	156	41	28	13	344	204
1949	10	2	8	344	159	33	19	14	376	227
1950	9	1	8	347	161	25	10	15	398	242
1951	12	4	8	350	164	34	18	16	422	256
1952	8	—	8	353	166	29	12	17	448	270
1953	9	1	8	353	166	23	5	18	463	279
1954	8	—	8	353	167	23	5	18	470	284
1955	8	—	8	352	168	22	3	18	479	288
1956	11	3	8	349	169	28	9	19	496	294
1957	8	—	8	343	171	31	12	20	509	305
1958	3	- 5	7	332	169	19	- 1	20	517	311
1959	4	- 3	7	322	165	16	- 4	20	527	308
1960	6	- 2	7	317	163	17	- 3	20	533	304

Assumed Life:

Building construction = 45 years
Engineering construction = 50 "
Machinery and equipment = 26 "
Capital items charged to operating expenses = 5 "

TABLEAU 15. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, textiles, en dollars constants de 1957, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
2	—	2	8	4	18	2	16	529	277	1926
4	2	2	9	5	34	17	17	541	286	1927
4	1	2	11	7	22	4	18	554	297	1928
3	—	3	13	7	16	- 3	18	558	298	1929
2	—	3	14	7	25	6	18	564	299	1930
4	1	3	15	8	35	15	19	580	310	1931
1	- 2	3	15	7	11	- 9	20	588	313	1932
2	- 1	3	13	6	14	- 6	19	584	306	1933
2	—	2	12	6	15	- 4	19	582	302	1934
3	1	2	12	6	27	8	19	588	304	1935
2	—	2	12	6	18	- 2	19	593	306	1936
3	1	2	12	7	22	2	20	595	306	1937
3	—	3	13	7	16	- 4	20	595	306	1938
2	—	3	14	7	14	- 6	20	589	300	1939
19	14	4	21	14	46	25	21	600	310	1940
15	8	7	35	25	37	12	24	626	328	1941
11	2	9	46	30	23	- 4	26	639	333	1942
5	- 5	10	51	29	10	- 18	27	637	322	1943
7	- 4	11	55	24	19	- 9	28	636	308	1944
12	1	11	54	23	28	—	28	638	304	1945
6	- 3	9	47	22	50	23	27	648	315	1946
7	- 1	8	40	20	66	38	27	681	346	1947
7	- 1	8	39	19	58	29	28	724	379	1948
6	- 2	8	39	18	49	20	30	759	404	1949
5	- 2	7	35	16	39	9	30	780	418	1950
6	- 1	6	31	15	52	22	30	803	434	1951
5	- 1	6	30	14	41	10	31	830	450	1952
4	- 1	5	27	12	36	5	31	843	458	1953
4	- 1	5	24	12	35	4	31	847	462	1954
4	—	5	23	11	34	3	31	854	466	1955
5	—	4	22	11	44	13	31	866	474	1956
5	—	4	22	11	44	13	32	874	487	1957
4	- 1	4	22	11	25	- 6	32	871	490	1958
3	- 1	4	21	10	24	- 8	32	870	483	1959
4	—	4	20	9	26	- 5	32	870	477	1960

Vie présumée:

Construction de bâtiments = 45 ans
Travaux de génie = 50 "
Machines et outillage = 26 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 16. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Textile Products, Original Cost Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	5	3	2	85	53	2	—	2	65	36
1927	6	4	2	89	56	8	5	3	65	39
1928	1	- 1	2	90	58	8	5	3	75	43
1929	1	- 1	2	90	57	5	2	3	79	47
1930	7	5	2	93	59	3	—	3	82	47
1931	2	—	2	96	61	10	7	3	87	51
1932	1	- 1	2	97	60	3	- 1	4	92	54
1933	1	- 1	2	97	59	4	—	4	94	54
1934	—	- 2	2	96	58	5	1	4	96	54
1935	3	1	2	97	57	7	3	4	100	57
1936	1	- 1	2	98	57	5	1	4	104	59
1937	2	—	2	99	57	6	2	4	107	61
1938	1	- 1	2	101	57	5	1	4	109	62
1939	—	- 2	2	101	55	5	1	4	110	63
1940	3	1	2	102	55	10	6	4	114	66
1941	3	1	2	105	56	9	4	5	121	71
1942	1	- 1	2	107	56	5	—	5	125	73
1943	—	- 2	2	107	55	2	- 3	5	124	72
1944	1	- 1	2	107	54	5	—	5	124	70
1945	1	- 1	2	108	53	8	3	5	128	72
1946	8	6	2	111	55	16	11	5	137	78
1947	11	8	3	120	62	26	20	6	155	94
1948	7	4	3	127	68	29	22	7	180	115
1949	7	4	3	132	72	25	17	8	205	134
1950	7	4	3	138	76	21	12	9	225	149
1951	10	7	3	144	81	30	20	10	247	165
1952	7	4	3	151	86	24	14	10	271	182
1953	7	4	3	156	90	20	9	11	288	193
1954	8	4	4	162	95	21	9	12	301	203
1955	8	4	4	167	98	20	8	12	316	211
1956	10	6	4	173	104	28	15	13	336	223
1957	8	4	4	178	109	32	18	14	359	240
1958	3	- 1	4	179	110	20	6	14	378	251
1959	5	1	4	179	110	18	3	15	394	256
1960	6	2	4	182	111	21	5	16	410	260

Assumed Life:

Building construction = 45 years
Engineering construction = 50 "
Machinery and equipment = 26 "
Capital items charged to operating expenses = 5 "

TABLEAU 16. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, textiles, en coût initiaux, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
1	—	1	4	2	8	3	5	153	91	1926
2	1	1	4	2	15	10	5	161	97	1927
2	1	1	5	3	10	4	6	170	104	1928
1	—	1	6	3	7	1	6	175	107	1929
1	—	1	6	3	10	4	6	181	109	1930
1	—	1	6	3	14	7	7	190	115	1931
—	- 1	1	6	3	4	- 3	7	195	117	1932
1	—	1	5	2	5	- 2	7	195	115	1933
1	—	1	5	2	7	—	7	197	114	1934
1	—	1	5	2	11	4	7	202	116	1935
1	—	1	5	2	7	—	7	206	119	1936
1	—	1	5	3	10	3	7	211	120	1937
2	1	1	6	3	9	1	8	215	122	1938
—	- 1	1	6	3	6	- 2	8	217	121	1939
9	7	2	10	7	23	14	9	226	128	1940
9	5	4	18	13	19	9	10	243	140	1941
7	2	5	24	16	13	1	12	255	145	1942
3	- 2	5	27	15	6	- 7	13	258	142	1943
4	- 2	6	30	13	11	- 2	13	261	138	1944
7	1	6	30	13	15	2	13	266	137	1945
3	- 2	5	26	12	28	15	13	274	146	1946
4	—	4	23	11	41	28	13	298	167	1947
4	—	4	22	11	40	26	14	330	194	1948
5	—	5	23	11	36	21	15	360	218	1949
4	—	4	22	11	31	15	16	384	236	1950
4	—	4	21	11	44	27	17	412	257	1951
4	—	4	22	11	36	18	18	443	279	1952
4	—	4	21	10	32	13	19	466	294	1953
4	—	4	20	10	32	13	19	483	307	1954
4	—	4	20	9	32	12	20	502	319	1955
5	1	4	19	10	43	22	21	528	336	1956
5	1	4	20	10	45	23	22	557	359	1957
4	—	4	20	11	26	4	22	578	372	1958
5	1	4	20	10	26	3	23	594	376	1959
4	—	4	20	10	31	7	24	612	381	1960

Vie présumée:

Construction de bâtiments = 45 ans
Travaux de génie = 50 "
Machines et outillage = 26 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 17. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Clothing, Current Dollars, 1926 - 1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	2	—	2	64	32	2	—	2	41	17
1927	8	5	2	69	35	2	—	2	40	17
1928	11	8	3	78	42	2	—	2	40	16
1929	13	10	3	92	54	2	—	2	40	16
1930	1	- 2	3	96	56	1	- 1	2	36	15
1931	2	- 1	3	90	51	1	- 1	2	32	13
1932	1	- 2	3	85	47	—	- 1	1	30	12
1933	1	- 2	3	81	44	1	- 1	1	27	11
1934	—	- 2	3	80	42	1	—	1	26	11
1935	—	- 2	3	79	40	1	—	1	25	11
1936	1	- 2	3	77	38	1	—	1	25	11
1937	2	- 1	3	81	38	2	—	1	27	13
1938	—	- 2	3	79	37	1	—	1	26	13
1939	1	- 1	3	77	35	2	1	1	26	13
1940	2	—	2	76	34	2	—	1	29	14
1941	11	8	3	85	41	2	1	2	32	16
1942	3	—	3	93	48	1	—	2	34	17
1943	2	- 2	3	94	49	1	—	2	34	17
1944	3	—	3	94	49	1	—	2	33	16
1945	9	6	3	98	52	4	3	2	33	17
1946	3	- 1	4	106	58	6	4	2	36	20
1947	4	—	4	118	64	10	8	2	46	28
1948	2	- 2	4	133	71	10	7	3	60	39
1949	3	- 2	5	140	72	11	7	3	72	49
1950	2	- 2	5	148	73	9	5	4	84	59
1951	4	- 2	6	168	81	9	4	5	96	68
1952	2	- 4	6	179	83	11	6	5	105	74
1953	4	- 2	6	185	83	11	5	6	117	81
1954	2	- 4	6	185	79	8	2	6	124	84
1955	1	- 5	6	188	77	8	1	6	134	88
1956	1	- 5	6	194	75	8	2	7	143	91
1957	1	- 5	6	192	73	10	2	7	149	93
1958	1	- 5	6	174	69	8	—	8	161	97
1959	2	- 3	5	151	66	11	3	8	169	100
1960	2	- 2	5	141	65	10	1	9	192	110

Assumed Life:

Building construction = 30 years
Engineering construction =
Machinery and equipment = 21 "
Capital items charged to operating expenses = 5 "

TABLEAU 17. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, vêtements, en dollars courants, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
—	—	—	2	1	4	- 1	4	107	50	1926
—	—	—	2	1	10	5	4	111	53	1927
—	—	—	2	1	13	8	5	120	60	1928
1	—	—	2	1	16	11	5	134	71	1929
—	—	—	2	1	2	- 3	5	134	72	1930
—	—	—	2	1	2	- 2	5	124	65	1931
—	—	—	2	1	2	- 3	5	116	60	1932
—	—	—	2	1	2	- 2	4	110	55	1933
—	—	—	1	—	1	- 3	4	108	53	1934
—	—	—	1	—	1	- 3	4	105	51	1935
—	—	—	1	—	2	- 2	4	103	49	1936
—	—	—	1	1	4	—	4	109	52	1937
—	—	—	1	1	2	- 2	4	107	50	1938
1	—	—	2	1	4	—	4	104	49	1939
2	2	1	3	2	6	2	4	108	51	1940
3	2	1	6	4	16	10	5	123	61	1941
2	—	2	8	5	6	—	6	134	70	1942
1	—	2	9	5	4	- 2	7	137	71	1943
1	- 1	2	10	4	5	- 1	7	137	70	1944
3	1	2	10	5	17	10	7	140	74	1945
1	- 1	2	9	5	10	3	7	151	82	1946
2	—	2	9	5	16	8	8	173	97	1947
2	—	2	10	5	14	5	9	203	115	1948
2	- 1	2	11	5	15	5	10	223	126	1949
2	- 1	2	10	5	13	2	11	242	137	1950
1	—	2	10	5	15	2	12	274	154	1951
2	—	2	9	4	14	1	13	293	161	1952
2	—	2	8	4	16	2	14	310	168	1953
1	—	2	8	4	11	- 3	14	316	167	1954
1	—	2	7	4	10	- 4	14	329	168	1955
1	—	2	7	4	11	- 4	15	344	170	1956
2	—	2	8	4	12	- 3	15	348	169	1957
1	—	1	7	4	9	- 6	15	342	170	1958
2	—	1	7	4	14	—	14	327	169	1959
1	—	2	7	4	14	- 2	15	340	179	1960

Vie présumée:

Construction de bâtiments = 30 ans
Travaux de génie =
Machines et outillage = 21 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 18. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Clothing, Constant 1949 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	3	—	4	104	53	2	- 1	3	66	28
1927	12	8	4	111	57	3	—	3	66	27
1928	17	13	4	124	67	2	- 1	3	65	26
1929	20	16	5	141	82	4	—	3	64	26
1930	1	- 4	5	150	88	2	- 1	3	63	26
1931	3	- 2	5	149	85	1	- 2	3	60	25
1932	2	- 3	5	149	82	1	- 2	3	57	23
1933	2	- 3	5	148	79	1	- 1	2	52	21
1934	1	- 4	5	145	76	1	- 1	2	48	20
1935	—	- 5	5	142	72	1	- 1	2	44	19
1936	1	- 3	5	139	68	2	—	2	42	19
1937	3	- 2	5	137	65	2	—	2	40	19
1938	1	- 4	4	135	63	2	—	2	39	19
1939	2	- 2	4	132	60	3	1	2	39	19
1940	4	—	4	130	59	2	—	2	40	20
1941	17	13	4	134	64	3	1	2	41	21
1942	4	—	5	139	71	1	—	2	41	21
1943	2	- 2	4	135	70	1	- 1	2	41	20
1944	4	—	4	132	69	1	- 1	2	40	20
1945	13	8	4	135	72	6	4	2	42	21
1946	3	- 1	5	139	76	8	5	2	47	26
1947	4	—	5	138	75	12	10	3	55	33
1948	2	- 2	5	139	74	11	8	3	64	42
1949	3	- 2	5	140	72	11	7	3	72	49
1950	2	- 2	5	141	70	9	5	4	78	55
1951	3	- 1	5	142	68	8	4	4	84	60
1952	1	- 3	5	141	66	10	5	4	92	65
1953	3	- 2	5	141	63	9	4	5	100	69
1954	2	- 3	5	141	61	6	1	5	107	72
1955	1	- 4	5	140	57	6	1	5	112	74
1956	1	- 4	5	139	54	7	1	6	117	75
1957	1	- 4	4	132	50	8	2	6	123	76
1958	—	- 3	4	118	47	6	—	6	128	78
1959	1	- 2	3	100	44	9	2	6	133	78
1960	2	- 2	3	90	42	7	1	7	139	80

Assumed Life:

Building construction = 30 years
Engineering construction =
Machinery and equipment = 21 "
Capital items charged to operating expenses = 5 "

TABLEAU 18. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, vêtements, en dollars constants de 1949, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
—	—	—	2	1	6	- 1	7	173	81	1926
1	—	—	2	1	16	8	7	179	85	1927
1	—	—	3	2	20	13	8	192	95	1928
1	—	1	3	2	25	16	8	209	110	1929
1	—	1	4	2	4	- 5	9	217	116	1930
—	—	1	4	2	4	- 4	9	213	111	1931
—	—	1	3	2	4	- 5	8	209	106	1932
—	—	1	3	1	3	- 5	8	203	102	1933
—	—	—	2	1	2	- 5	8	196	97	1934
—	—	—	2	1	2	- 6	7	188	92	1935
—	—	—	2	1	4	- 3	7	183	87	1936
1	—	—	2	1	6	- 1	7	180	85	1937
—	—	—	2	1	3	- 4	7	176	83	1938
1	—	—	2	1	6	- 1	7	173	80	1939
3	2	1	4	3	10	3	7	174	81	1940
3	2	1	7	5	23	15	8	183	90	1941
2	—	2	10	6	8	—	8	190	98	1942
2	- 1	2	11	6	5	- 3	9	186	96	1943
2	- 1	2	12	6	7	- 2	9	184	94	1944
4	1	2	13	6	22	13	9	190	99	1945
2	- 1	2	12	6	13	3	9	198	108	1946
2	—	2	11	6	18	9	9	204	114	1947
2	—	2	11	5	15	5	10	213	121	1948
2	- 1	2	11	5	15	5	10	223	126	1949
1	—	2	10	4	13	2	10	229	130	1950
1	—	2	8	4	13	2	10	234	132	1951
1	—	2	7	3	12	2	11	240	134	1952
1	—	1	7	3	13	2	11	247	136	1953
1	—	1	6	3	9	- 2	11	254	136	1954
1	—	1	6	3	8	- 3	11	258	134	1955
1	—	1	5	3	9	- 2	11	261	131	1956
1	—	1	5	2	10	- 2	11	260	129	1957
1	—	1	5	2	7	- 4	11	251	126	1958
1	—	1	5	2	11	—	10	238	124	1959
1	—	1	5	2	10	- 1	10	234	124	1960

Vie présumée:

Construction de bâtiments = 30 ans
Travaux de génie =
Machines et outillage = 21 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 19. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Clothing, Constant 1957 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	5	—	5	152	76	3	- 1	4	80	34
1927	18	12	5	161	82	3	—	4	80	33
1928	25	19	6	180	98	3	- 1	4	79	32
1929	30	23	7	205	119	4	1	4	78	32
1930	2	- 5	7	218	127	2	- 2	4	77	32
1931	4	- 3	7	217	123	1	- 2	4	73	30
1932	3	- 4	7	216	119	1	- 2	3	69	28
1933	3	- 4	7	214	115	1	- 2	3	64	26
1934	1	- 6	7	211	110	2	- 1	3	58	24
1935	—	- 7	7	206	104	2	- 1	2	54	24
1936	2	- 5	7	202	98	2	—	2	51	23
1937	4	- 2	7	199	95	3	1	2	49	23
1938	1	- 6	6	196	91	2	—	2	47	23
1939	4	- 3	6	191	87	3	1	2	47	24
1940	6	—	6	188	86	3	1	2	49	24
1941	25	18	6	195	94	3	1	2	50	25
1942	6	—	7	201	103	2	- 1	2	50	25
1943	3	- 3	6	196	102	2	- 1	2	50	24
1944	6	- 1	6	191	100	2	- 1	2	49	24
1945	18	12	6	196	105	7	4	2	51	26
1946	5	- 2	7	202	110	9	6	3	57	31
1947	6	—	7	201	109	15	12	3	66	40
1948	3	- 4	7	202	107	13	10	4	77	51
1949	4	- 2	7	203	104	13	9	4	87	60
1950	4	- 3	7	204	101	11	6	4	95	67
1951	5	- 2	7	205	99	10	5	5	102	73
1952	2	- 5	7	205	95	12	6	5	111	78
1953	4	- 3	7	204	92	11	5	6	121	84
1954	2	- 4	7	205	88	8	2	6	129	88
1955	2	- 5	7	204	83	8	2	6	136	89
1956	1	- 5	7	201	78	8	2	7	142	91
1957	1	- 5	6	192	73	10	2	7	149	93
1958	1	- 5	6	171	68	7	—	7	155	94
1959	2	- 3	5	145	63	10	3	8	162	95
1960	2	- 2	4	131	61	9	1	8	169	97

Assumed Life:

Building construction = 30 years
Engineering construction =
Machinery and equipment = 21 "
Capital items charged to operating expenses = 5 "

TABLEAU 19. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, vêtements, en dollars constants de 1957, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
1	—	1	4	2	8	- 1	10	235	112	1926
1	—	1	4	2	22	12	10	244	117	1927
1	—	1	4	2	29	19	11	263	132	1928
1	—	1	4	3	35	24	11	287	153	1929
1	—	1	5	3	5	- 7	12	299	162	1930
—	—	1	5	3	6	- 6	12	295	155	1931
1	—	1	5	2	5	- 6	12	290	149	1932
—	- 1	1	4	2	5	- 6	11	282	143	1933
—	—	1	3	1	3	- 7	10	272	136	1934
—	—	—	3	1	2	- 8	10	262	128	1935
1	—	—	2	1	5	- 5	10	255	122	1936
1	—	—	3	2	8	- 1	9	251	119	1937
1	—	1	3	2	3	- 6	9	246	116	1938
1	1	1	4	2	8	- 1	9	242	112	1939
5	4	1	6	4	14	4	10	243	114	1940
5	3	2	10	7	33	22	11	256	126	1941
3	1	3	14	9	11	—	12	265	137	1942
2	- 1	3	16	9	7	- 5	12	261	135	1943
2	- 1	3	17	8	10	- 2	12	257	131	1944
6	2	4	18	8	31	18	12	265	139	1945
2	- 1	3	17	9	16	4	13	275	150	1946
3	—	3	16	8	24	11	13	283	157	1947
2	- 1	3	16	8	19	5	14	294	166	1948
2	- 1	3	16	7	20	6	14	306	171	1949
2	- 1	3	14	6	16	2	14	313	175	1950
2	- 1	2	12	5	16	2	14	319	177	1951
2	—	2	11	5	15	1	14	327	179	1952
2	—	2	10	5	17	2	15	335	180	1953
1	—	2	9	4	12	- 3	15	343	180	1954
1	—	2	8	4	11	- 4	15	348	176	1955
1	—	2	8	4	11	- 4	15	351	172	1956
2	—	2	8	4	12	- 3	15	348	169	1957
1	—	1	7	3	9	- 6	14	333	165	1958
2	—	1	7	3	13	—	14	314	162	1959
1	—	1	7	3	12	- 2	14	307	161	1960

Vie présumée:

Construction de bâtiments = 30 ans
Travaux de génie =
Machines et outillage = 21 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 20. Estimates of Fixed Capital, Flows and Mid-Year Stocks, Manufacturing, Clothing, Original Cost Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	2	1	1	42	24	1	—	1	29	14
1927	8	6	2	47	27	1	—	1	30	14
1928	11	9	2	56	35	1	—	1	30	15
1929	13	11	2	67	45	3	1	2	31	15
1930	—	- 2	2	74	50	2	—	2	31	15
1931	1	- 1	2	74	48	—	- 1	1	31	14
1932	1	- 1	2	75	47	—	- 1	1	30	14
1933	1	- 1	2	75	46	—	- 1	1	28	13
1934	—	- 2	2	75	44	1	—	1	27	12
1935	—	- 2	2	74	42	1	—	1	26	12
1936	—	- 2	2	73	40	1	—	1	25	11
1937	1	- 1	2	73	39	1	—	1	25	12
1938	—	- 2	2	73	38	1	—	1	25	12
1939	1	- 1	2	72	36	2	1	1	25	12
1940	2	—	2	72	36	1	—	1	26	12
1941	10	8	2	76	40	2	1	1	26	13
1942	3	—	3	81	44	1	—	1	26	14
1943	2	- 1	3	80	44	1	—	1	26	13
1944	3	—	3	80	43	1	—	1	26	13
1945	9	6	3	84	46	4	3	1	28	15
1946	3	—	3	88	49	6	4	2	32	18
1947	4	1	3	90	50	10	8	2	38	25
1948	2	- 1	3	91	50	10	8	2	47	33
1949	3	—	3	93	49	11	8	3	56	41
1950	2	- 1	3	94	49	9	6	3	64	48
1951	4	1	3	96	49	9	6	3	72	54
1952	1	- 2	3	97	48	11	7	4	81	61
1953	3	—	3	98	48	10	6	4	91	68
1954	2	- 1	3	100	48	8	3	5	100	72
1955	1	- 2	3	100	46	8	3	5	107	75
1956	1	- 2	3	100	44	8	3	5	114	78
1957	1	- 2	3	96	42	10	4	6	122	81
1958	1	- 2	3	88	40	7	1	6	130	84
1959	2	- 1	3	77	38	11	4	7	138	87
1960	2	—	2	72	38	10	3	7	146	90

Assumed Life:

Building construction = 30 years
Engineering construction =
Machinery and equipment = 21 "
Capital items charged to operating expenses = 5 "

TABLEAU 20. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, vêtements, en coûts initiaux, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
—	—	—	2	1	4	1	3	73	39	1926
—	—	—	2	1	9	6	3	78	43	1927
—	—	—	2	1	13	9	4	88	50	1928
—	—	—	2	1	16	12	4	100	61	1929
—	—	—	2	1	2	− 2	4	107	66	1930
—	—	—	2	1	2	− 2	4	107	64	1931
—	—	—	2	1	2	− 2	4	107	62	1932
—	—	—	2	1	2	− 2	4	105	59	1933
—	—	—	1	—	1	− 3	4	103	57	1934
—	—	—	1	—	1	− 3	4	101	54	1935
—	—	—	1	—	2	− 2	4	100	52	1936
—	—	—	1	1	4	—	4	99	51	1937
—	—	—	1	1	2	− 2	4	99	50	1938
—	—	—	2	1	4	—	4	98	49	1939
3	2	1	3	2	6	2	4	100	50	1940
3	2	1	5	4	16	11	5	108	57	1941
1	—	1	7	5	6	1	5	114	62	1942
2	—	2	8	8	4	− 2	6	115	62	1943
2	—	2	9	4	6	—	6	115	61	1944
3	1	2	10	5	17	11	6	122	66	1945
1	− 1	2	10	5	9	3	6	130	73	1946
2	—	2	9	4	15	9	6	137	79	1947
2	—	2	9	4	14	7	7	147	87	1948
2	—	2	9	4	16	8	8	158	94	1949
2	—	2	8	4	14	6	8	167	101	1950
2	—	2	8	4	14	6	8	175	107	1951
2	—	2	8	4	15	6	9	186	113	1952
2	—	2	8	4	16	7	9	197	119	1953
2	—	2	7	4	11	1	10	207	123	1954
1	—	1	7	3	11	1	10	214	124	1955
1	—	1	7	3	11	1	10	221	125	1956
1	—	1	7	3	12	2	10	226	126	1957
1	—	1	6	3	9	− 1	10	224	127	1958
1	—	1	6	3	14	4	10	221	128	1959
1	—	1	7	4	14	3	11	226	131	1960

Vie présumée:

Construction de bâtiments = 30 ans
Travaux de génie =
Machines et outillage = 21 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 21. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Wood Products, Current Dollars, 1926 - 1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	3	- 4	8	231	107	4	- 5	10	252	100
1927	22	14	8	242	112	6	- 3	10	246	94
1928	7	- 1	8	256	119	4	- 6	9	243	91
1929	10	1	9	273	125	3	- 6	9	234	85
1930	6	- 3	9	269	120	4	- 4	8	206	74
1931	1	- 7	8	251	108	2	- 5	7	183	64
1932	4	- 3	8	234	98	2	- 5	6	170	58
1933	7	—	7	223	93	2	- 4	6	156	52
1934	4	- 3	7	219	91	1	- 5	6	155	52
1935	1	- 6	7	213	88	2	- 4	6	148	50
1936	3	- 4	7	206	83	2	- 4	5	139	48
1937	14	7	7	216	90	4	- 2	6	143	51
1938	1	- 6	7	209	90	3	- 2	5	132	48
1939	5	- 2	6	197	86	2	- 3	5	120	46
1940	8	2	6	193	87	3	- 1	4	118	47
1941	11	4	7	205	97	6	2	5	123	51
1942	11	4	7	215	107	4	- 1	5	124	54
1943	17	9	7	226	119	4	- 1	4	117	53
1944	3	- 4	7	228	124	2	- 2	4	113	52
1945	2	- 6	7	224	120	4	—	4	107	48
1946	11	3	8	233	125	10	5	4	108	50
1947	11	3	8	262	144	21	16	5	132	66
1948	8	- 2	10	296	163	18	12	6	162	87
1949	8	- 3	10	313	168	19	12	7	189	106
1950	8	- 3	11	333	175	21	13	8	209	124
1951	11	- 1	12	382	196	27	19	9	230	147
1952	9	- 4	13	410	205	22	13	10	246	163
1953	10	- 4	14	431	209	24	14	10	267	181
1954	8	- 6	14	428	203	24	14	11	286	197
1955	12	- 2	14	434	204	31	19	12	316	219
1956	14	- 1	15	460	213	37	23	14	353	248
1957	10	- 5	15	462	217	29	14	15	391	275
1958	9	- 6	15	448	215	22	6	16	424	293
1959	15	—	15	454	218	35	18	17	452	307
1960	16	1	15	463	225	33	14	19	494	331

Assumed Life:

Building construction = 30 years
Engineering construction = 35 "
Machinery and equipment = 26 "
Capital items charged to operating expenses = 5 "

TABLEAU 21. Estimations de capital fixe, flux et stocks de mi-année, secteurs de la fabrication, produits du bois, en dollars courants, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
3	1	2	11	7	11	- 9	19	494	214	1926
2	—	2	12	7	30	10	20	500	213	1927
2	- 1	3	13	6	13	- 7	20	512	216	1928
1	- 1	2	12	5	14	- 6	20	519	215	1929
1	- 1	2	9	4	11	- 7	18	485	198	1930
1	—	1	7	3	4	- 12	17	442	176	1931
1	—	1	6	3	7	- 9	15	410	159	1932
1	—	1	5	2	9	- 5	14	383	147	1933
1	—	1	5	2	6	- 8	14	379	145	1934
1	—	1	5	2	4	- 10	14	366	139	1935
1	—	1	4	2	5	- 8	13	350	133	1936
2	—	1	5	2	19	6	14	364	143	1937
2	1	1	6	3	6	- 7	13	346	142	1938
1	—	1	6	3	8	- 4	12	323	135	1939
10	8	2	11	8	21	8	13	322	141	1940
10	6	4	22	16	28	12	16	350	164	1941
8	2	6	31	20	23	6	18	369	181	1942
6	- 2	7	36	21	26	7	19	380	193	1943
5	- 3	8	40	18	10	- 9	20	381	194	1944
8	—	8	38	16	13	- 6	19	369	185	1945
3	- 4	6	31	14	23	5	18	373	189	1946
4	- 2	6	29	13	36	17	19	423	223	1947
4	- 2	6	28	12	30	9	21	486	263	1948
4	- 2	6	27	12	31	8	23	529	286	1949
4	- 1	5	25	12	34	10	24	568	310	1950
5	—	5	25	12	44	18	26	637	355	1951
5	—	5	25	12	36	8	28	682	380	1952
5	—	5	25	12	39	10	29	722	402	1953
5	—	5	25	12	38	8	30	738	413	1954
6	1	5	26	13	49	18	32	776	437	1955
7	1	6	28	15	57	23	34	841	475	1956
6	—	6	30	16	45	8	36	884	508	1957
5	- 2	6	31	15	36	- 2	37	904	523	1958
6	—	6	31	15	57	19	38	936	540	1959
6	—	6	32	16	56	16	40	989	572	1960

Vie présumée:

Construction de bâtiments	= 30 ans
Travaux de génie	= 35 "
Machines et outillage	= 26 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 22. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Wood Products, Constant 1949 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	6	- 7	12	379	176	7	- 8	16	404	161
1927	35	22	13	395	184	10	- 5	15	401	154
1928	12	- 2	14	415	194	6	- 9	15	393	147
1929	16	2	14	424	194	4	- 10	14	378	137
1930	10	- 5	14	431	193	7	- 7	14	362	129
1931	2	- 12	14	427	185	4	- 9	13	345	121
1932	8	- 6	14	419	176	3	- 10	13	326	112
1933	13	—	14	413	172	3	- 9	12	305	102
1934	8	- 5	13	406	170	2	- 9	11	281	94
1935	2	- 11	13	393	162	4	- 6	10	257	86
1936	5	- 7	12	378	153	2	- 6	9	234	80
1937	24	12	12	372	155	5	- 3	8	214	75
1938	2	- 10	12	362	156	4	- 4	8	196	72
1939	8	- 3	11	344	150	3	- 4	7	179	68
1940	14	3	11	333	150	4	- 2	6	165	65
1941	17	7	11	327	155	8	2	6	158	65
1942	17	6	10	324	162	5	- 1	6	152	66
1943	24	14	10	326	172	4	- 1	6	142	65
1944	4	- 6	10	323	175	3	- 2	5	137	63
1945	2	- 8	10	314	168	5	- 1	5	136	62
1946	14	4	10	309	166	12	7	5	141	65
1947	13	3	10	309	170	24	18	6	155	77
1948	8	- 2	10	310	171	20	13	7	173	93
1949	8	- 3	10	313	168	19	12	7	189	106
1950	8	- 3	10	316	166	20	13	8	198	118
1951	9	- 1	10	320	164	25	17	8	208	132
1952	7	- 3	10	324	162	20	12	8	222	147
1953	8	- 3	11	328	159	21	12	9	234	159
1954	6	- 4	11	327	155	21	12	10	247	171
1955	9	- 2	10	324	152	26	16	10	266	184
1956	10	- 1	11	327	151	30	19	11	288	202
1957	7	- 3	10	318	150	23	11	12	308	217
1958	6	- 4	10	304	146	17	4	12	324	224
1959	10	—	10	299	144	27	14	13	343	233
1960	10	1	10	297	144	25	11	14	367	245

Assumed Life:

Building construction = 30 years
Engineering construction = 35 "
Machinery and equipment = 26 "
Capital items charged to operating expenses = 5 "

TABLEAU 22. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, produits du bois, en dollars constants de 1949, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
5	1	4	18	11	17	- 14	32	801	348	1926
3	- 1	4	20	11	49	16	32	817	349	1927
3	- 1	4	22	10	21	- 12	33	830	351	1928
2	- 2	4	20	8	22	- 10	32	822	340	1929
2	- 1	3	16	7	19	- 12	31	809	329	1930
2	—	3	14	6	8	- 22	30	786	311	1931
2	- 1	2	12	5	12	- 16	28	756	292	1932
1	- 1	2	10	4	17	- 10	27	728	279	1933
1	—	2	9	4	12	- 14	26	695	267	1934
1	—	2	8	4	7	- 17	24	658	252	1935
1	—	2	7	4	9	- 14	23	619	236	1936
2	1	1	7	4	32	10	22	592	234	1937
3	1	2	8	5	9	- 12	21	567	233	1938
2	—	2	9	5	13	- 7	20	532	223	1939
14	11	3	16	11	32	12	20	513	226	1940
13	8	6	28	20	39	16	22	513	240	1941
10	2	8	38	25	32	8	24	514	252	1942
7	- 2	9	44	25	35	10	25	512	261	1943
6	- 3	10	48	22	13	- 12	25	508	261	1944
10	—	10	48	21	16	- 9	25	498	250	1945
4	- 5	8	41	18	30	7	24	491	249	1946
5	- 2	7	34	15	42	20	23	498	262	1947
4	- 2	6	30	13	32	10	23	513	277	1948
4	- 2	6	27	12	31	8	23	529	286	1949
4	- 1	5	23	11	32	9	23	538	294	1950
4	—	4	21	10	39	16	23	549	307	1951
4	—	4	21	10	31	8	23	566	319	1952
4	—	4	20	10	33	9	24	582	328	1953
4	—	4	20	10	32	7	24	594	336	1954
5	1	4	20	10	40	15	25	610	347	1955
5	1	4	21	11	45	19	26	636	364	1956
4	—	4	21	11	34	7	26	647	378	1957
3	- 1	4	21	10	26	—	27	650	380	1958
4	—	4	21	10	41	14	27	663	387	1959
4	—	4	20	10	39	12	28	684	400	1960

Vie présumée:

Construction de bâtiments	= 30 ans
Travaux de génie	= 35 "
Machines et outillage	= 26 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 23. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Wood Products, Constant 1957 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	8	- 10	18	550	256	9	- 11	20	513	204
1927	51	32	19	574	267	13	- 7	20	510	195
1928	18	- 2	20	603	282	8	- 12	19	499	186
1929	23	3	20	616	282	6	- 13	18	480	174
1930	14	- 7	20	626	280	9	- 8	18	460	164
1931	2	- 18	20	620	268	5	- 12	17	438	154
1932	11	- 8	20	608	255	4	- 12	16	414	142
1933	19	- 1	20	600	250	4	- 11	15	387	130
1934	12	- 7	19	590	246	3	- 11	14	356	119
1935	3	- 16	19	571	235	5	- 8	12	326	110
1936	8	- 10	18	548	222	3	- 8	11	297	102
1937	35	18	18	540	225	7	- 4	10	271	96
1938	3	- 14	17	526	227	5	- 5	10	249	92
1939	12	- 4	16	501	218	3	- 5	9	227	87
1940	20	4	16	483	218	6	- 2	8	209	83
1941	25	10	15	475	225	10	2	8	201	83
1942	25	10	15	472	235	6	- 1	7	193	83
1943	35	20	15	474	249	6	- 1	7	180	82
1944	6	- 9	15	470	254	4	- 3	7	174	80
1945	3	- 12	15	456	244	6	- 1	7	173	78
1946	21	6	15	449	241	16	9	7	179	82
1947	20	5	15	450	247	31	23	8	197	98
1948	12	- 3	15	451	248	25	17	8	219	118
1949	11	- 4	15	454	245	24	15	9	240	134
1950	11	- 4	15	459	241	26	16	10	252	150
1951	14	- 2	15	465	238	31	21	10	263	168
1952	11	- 4	15	470	235	26	15	11	282	186
1953	12	- 4	16	477	231	27	16	11	297	201
1954	9	- 6	16	475	226	27	15	12	314	217
1955	13	- 2	15	471	222	33	20	13	337	234
1956	14	- 1	16	476	220	38	24	14	365	256
1957	10	- 5	15	462	217	29	14	15	391	275
1958	9	- 6	14	442	212	21	6	16	412	284
1959	15	1	14	435	209	34	17	17	436	296
1960	15	1	14	432	210	31	14	18	465	311

Assumed Life:

Building construction = 30 years
Engineering construction = 35 "
Machinery and equipment = 26 "
Capital items charged to operating expenses = 5 "

TABLEAU 23. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, produits du bois, en dollars constants de 1957, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
7	2	5	26	16	24	- 19	43	1,089	475	1926
5	- 1	6	29	16	69	24	44	1,113	478	1927
5	- 2	6	31	14	30	- 15	45	1,133	482	1928
3	- 3	6	28	12	31	- 13	44	1,124	468	1929
3	- 2	5	23	10	26	- 17	43	1,108	454	1930
3	- 1	4	20	8	11	- 30	41	1,078	430	1931
2	- 1	3	17	7	17	- 22	39	1,039	404	1932
2	- 1	3	14	6	25	- 13	37	1,001	387	1933
2	—	2	12	6	17	- 19	35	959	371	1934
2	—	2	12	5	10	- 24	34	909	350	1935
2	—	2	11	5	12	- 19	31	856	328	1936
3	1	2	10	5	45	15	30	821	326	1937
4	2	2	12	7	12	- 17	29	787	325	1938
3	—	3	13	7	18	- 9	28	740	312	1939
20	16	4	22	15	46	18	28	715	316	1940
19	11	8	40	29	54	23	31	716	337	1941
14	3	11	55	36	45	12	34	719	354	1942
10	- 3	13	63	36	50	16	35	717	368	1943
9	- 5	14	69	32	19	- 17	36	713	367	1944
14	—	14	69	30	23	- 12	35	698	352	1945
5	- 7	12	59	26	42	8	33	687	350	1946
7	- 3	10	48	22	57	26	32	695	367	1947
6	- 2	9	43	19	43	12	32	712	385	1948
6	- 2	8	39	17	41	9	32	733	396	1949
6	- 1	7	34	15	42	11	31	745	406	1950
6	—	6	30	15	51	20	31	759	421	1951
6	—	6	30	15	42	10	32	782	436	1952
6	—	6	29	14	44	11	33	802	446	1953
6	—	6	28	14	42	9	33	817	456	1954
7	1	6	29	14	53	19	34	837	470	1955
7	1	6	30	15	59	24	36	870	491	1956
6	—	6	30	16	45	8	36	884	508	1957
4	- 2	6	30	15	35	- 2	36	884	511	1958
6	—	6	30	14	55	18	37	900	519	1959
6	—	6	30	14	52	15	38	926	536	1960

Vie présumée:

Construction de bâtiments = 30 ans
Travaux de génie = 35 "
Machines et outillage = 26 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 24. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Wood Products, Original Cost Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	3	- 2	5	146	77	4	- 2	6	161	74
1927	21	16	5	157	84	6	—	6	162	74
1928	8	2	6	171	93	4	- 2	6	162	72
1929	10	4	6	178	96	3	- 3	6	159	69
1930	4	- 2	6	185	98	4	- 2	6	156	67
1931	1	- 5	6	186	96	2	- 4	6	152	64
1932	4	- 2	6	185	92	2	- 4	6	146	60
1933	7	1	6	186	92	1	- 4	5	139	56
1934	4	- 2	6	186	92	1	- 4	5	131	52
1935	1	- 5	6	183	88	2	- 3	5	124	49
1936	3	- 3	6	179	84	1	- 3	4	116	46
1937	14	8	6	181	87	3	- 1	4	111	45
1938	1	- 5	6	181	89	2	- 2	4	106	44
1939	5	- 1	6	176	86	2	- 2	4	101	42
1940	8	2	6	174	87	3	- 1	4	97	40
1941	11	5	6	176	90	7	3	4	97	41
1942	11	5	6	179	96	4	—	4	97	43
1943	17	11	6	186	104	4	—	4	93	43
1944	3	- 3	6	189	108	3	- 1	4	90	42
1945	2	- 4	6	187	104	3	—	3	90	42
1946	11	5	6	188	104	10	6	4	94	45
1947	11	5	6	193	109	21	17	4	106	56
1948	7	1	6	198	112	19	14	5	122	72
1949	8	1	7	203	113	19	14	5	139	85
1950	8	1	7	208	114	21	15	6	153	100
1951	11	4	7	215	117	27	21	6	168	118
1952	9	2	7	222	120	22	15	7	188	136
1953	10	3	7	229	123	24	16	8	206	152
1954	9	1	8	233	125	25	16	9	226	168
1955	12	4	8	237	127	31	21	10	250	187
1956	14	6	8	246	132	37	26	11	280	210
1957	10	2	8	247	136	29	17	12	310	232
1958	9	1	8	244	138	22	9	13	334	245
1959	15	7	8	248	142	36	22	14	361	260
1960	16	8	8	255	149	33	18	15	394	280

Assumed Life:

Building construction = 30 years
Engineering construction = 35 "
Machinery and equipment = 26 "
Capital items charged to operating expenses = 5 "

TABLEAU 24. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, produits du bois, en coûts initiaux, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
3	1	2	12	7	10	– 3	13	318	158	1926
2	– 1	3	13	7	30	16	14	332	164	1927
2	– 1	3	14	6	13	– 2	15	347	172	1928
1	– 1	2	12	5	14	–	14	350	171	1929
1	– 1	2	10	4	9	– 5	14	350	169	1930
2	–	2	8	3	5	– 9	14	346	163	1931
–	– 1	1	7	3	7	– 6	13	338	156	1932
1	–	1	6	2	9	– 3	12	331	151	1933
1	–	1	5	2	6	– 6	12	322	146	1934
1	–	1	4	2	4	– 8	12	312	140	1935
1	–	1	4	2	5	– 6	11	300	133	1936
2	1	1	4	2	19	8	11	296	134	1937
2	1	1	5	3	6	– 5	11	292	135	1938
1	–	1	6	3	8	– 3	11	283	131	1939
10	8	2	11	7	21	10	11	282	134	1940
10	6	4	20	15	28	14	14	293	146	1941
8	2	6	28	19	23	8	15	304	158	1942
6	– 1	7	34	20	26	10	16	313	166	1943
6	– 2	8	37	18	10	– 7	17	317	168	1944
8	–	8	38	17	13	– 4	17	315	162	1945
3	– 4	7	33	15	23	7	16	315	164	1946
4	– 1	5	27	12	36	20	16	326	177	1947
4	– 1	5	24	11	30	14	16	344	195	1948
4	– 1	5	23	10	31	14	17	365	209	1949
4	–	4	21	10	34	17	17	381	224	1950
5	1	4	20	11	44	26	18	403	246	1951
4	–	4	22	11	37	18	19	432	268	1952
4	–	4	22	12	39	19	20	458	286	1953
5	–	5	23	12	38	17	21	482	305	1954
6	1	5	25	13	49	27	22	511	326	1955
6	1	5	26	14	57	33	24	553	356	1956
6	–	6	27	14	44	19	25	584	383	1957
5	– 1	6	28	14	35	9	26	605	397	1958
7	1	6	28	14	58	30	28	637	416	1959
7	1	6	30	15	55	26	29	679	444	1960

Vie présumée:

Construction de bâtiments = 30 ans
Travaux de génie = 35 "
Machines et outillage = 26 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 25. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Paper Products, Current Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	21	15	6	320	242	22	11	11	251	145
1927	24	17	7	344	259	24	12	12	266	154
1928	32	24	7	374	281	17	4	13	283	163
1929	16	8	8	415	311	10	- 4	13	290	163
1930	4	- 4	8	413	304	21	8	12	276	153
1931	11	3	8	396	286	2	- 10	12	261	141
1932	2	- 6	8	383	271	1	- 10	11	252	128
1933	—	- 7	7	370	255	1	- 10	11	238	116
1934	1	- 6	7	370	248	3	- 8	11	245	116
1935	2	- 5	7	373	244	2	- 9	11	241	112
1936	2	- 6	7	378	240	4	- 7	11	238	108
1937	4	- 4	8	404	251	6	- 6	12	262	114
1938	3	- 5	8	404	244	5	- 7	12	256	108
1939	4	- 4	8	403	237	2	- 9	11	246	100
1940	5	- 3	8	412	237	10	- 2	12	260	101
1941	9	—	9	451	254	6	- 7	13	283	105
1942	4	- 6	10	480	266	10	- 3	13	285	105
1943	2	- 8	10	505	272	5	- 8	13	280	100
1944	8	- 2	10	516	271	7	- 6	12	275	94
1945	6	- 5	10	526	271	11	- 1	12	254	86
1946	27	16	11	570	291	28	17	11	246	92
1947	31	18	13	667	345	50	37	13	288	130
1948	29	14	15	778	405	60	45	16	344	186
1949	27	10	17	838	436	55	37	18	388	240
1950	21	3	18	901	467	57	37	20	448	302
1951	42	21	21	1,046	541	83	60	24	521	369
1952	34	11	23	1,145	592	96	68	28	607	453
1953	22	- 1	24	1,209	618	82	51	31	683	521
1954	22	- 2	24	1,218	614	66	31	35	770	575
1955	33	8	25	1,264	631	106	66	40	878	642
1956	85	58	27	1,372	695	172	124	49	1,071	779
1957	66	37	29	1,482	768	200	140	60	1,316	958
1958	26	- 5	30	1,532	795	102	33	68	1,501	1,075
1959	24	- 7	31	1,584	812	102	28	74	1,630	1,134
1960	34	2	32	1,636	832	130	50	81	1,775	1,201

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 22 "
Capital items charged to operating expenses = 5 "

TABLEAU 25. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, produits du papier, en dollars courants, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
4	—	4	21	12	48	26	22	592	398	1926
6	1	5	23	12	53	30	24	633	425	1927
4	- 1	5	25	12	53	28	25	682	456	1928
5	—	5	24	12	30	4	26	730	486	1929
6	1	4	23	11	31	6	25	712	468	1930
3	- 2	4	21	10	16	- 8	24	678	437	1931
1	- 2	4	18	8	4	- 18	23	653	408	1932
1	- 2	3	15	6	2	- 20	21	622	376	1933
1	- 1	3	13	4	5	- 16	21	628	368	1934
2	—	2	10	4	6	- 14	20	624	359	1935
2	—	2	7	4	7	- 13	20	623	352	1936
3	1	2	8	5	14	- 8	22	674	370	1937
2	—	2	9	5	9	- 13	22	669	358	1938
2	—	2	10	5	8	- 13	21	659	343	1939
16	13	4	18	12	31	8	24	690	350	1940
12	6	6	32	23	27	- 1	28	766	382	1941
17	7	9	46	30	30	- 2	32	811	401	1942
10	- 2	11	57	34	16	- 18	34	841	406	1943
13	—	13	66	33	28	- 8	36	856	397	1944
19	5	14	68	34	35	—	36	849	391	1945
7	- 6	13	64	32	62	27	35	880	415	1946
10	- 3	13	65	31	91	52	39	1,020	506	1947
12	- 2	14	68	31	101	56	44	1,190	622	1948
11	- 3	14	70	31	92	44	48	1,296	708	1949
12	- 2	13	66	31	90	39	52	1,415	800	1950
16	2	14	68	35	141	83	58	1,636	945	1951
17	2	14	72	37	146	82	65	1,823	1,081	1952
15	—	15	75	39	119	49	70	1,967	1,178	1953
14	- 1	15	76	39	101	27	74	2,064	1,228	1954
18	2	16	81	41	157	76	81	2,224	1,313	1955
26	7	18	92	48	283	189	94	2,536	1,521	1956
29	8	21	106	58	295	185	110	2,903	1,783	1957
19	- 4	23	114	62	146	25	121	3,148	1,932	1958
20	- 4	23	117	59	146	17	129	3,332	2,004	1959
22	- 2	24	122	58	187	49	137	3,533	2,090	1960

Vie présumée:

Construction de bâtiments = 50 ans
Travaux de génie = 55 "
Machines et outillage = 22 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 26. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Paper Products, Constant 1949 Dollars, 1926 - 1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	35	25	10	525	397	36	18	18	403	232
1927	39	28	11	561	423	39	19	20	434	250
1928	52	40	12	606	456	28	7	21	458	263
1929	25	12	13	644	482	16	- 6	21	469	264
1930	7	- 6	13	660	486	36	14	22	484	268
1931	19	6	13	672	486	4	- 19	22	493	266
1932	4	- 10	14	683	484	2	- 20	22	483	247
1933	—	- 13	14	684	472	1	- 20	21	466	227
1934	2	- 12	14	684	459	5	- 15	20	443	209
1935	4	- 10	14	686	449	4	- 15	19	419	194
1936	3	- 11	14	688	438	6	- 12	18	400	181
1937	7	- 6	14	692	430	10	- 8	18	390	171
1938	4	- 9	14	697	422	7	- 10	17	381	161
1939	7	- 7	14	701	414	3	- 13	17	366	149
1940	9	- 5	14	708	408	14	- 3	16	363	141
1941	14	—	14	717	405	7	- 9	16	363	135
1942	6	- 9	14	723	400	12	- 4	16	350	128
1943	2	- 12	14	724	390	6	- 9	15	340	122
1944	11	- 3	14	728	383	8	- 7	15	333	114
1945	8	- 6	14	735	378	14	- 1	15	323	110
1946	36	21	15	753	385	36	22	15	322	120
1947	37	21	16	786	406	58	43	15	339	152
1948	30	14	16	815	424	64	48	17	366	198
1949	27	10	17	838	436	55	37	18	388	240
1950	20	3	17	856	443	52	34	19	409	276
1951	35	18	17	878	454	72	52	20	449	318
1952	27	9	18	904	467	79	56	23	498	372
1953	17	- 1	18	920	471	66	41	25	551	420
1954	16	- 2	18	931	469	52	24	28	607	453
1955	25	6	19	944	471	81	50	30	671	490
1956	61	41	19	978	495	124	89	35	770	560
1957	46	26	20	1,020	528	136	95	41	896	652
1958	17	- 3	20	1,040	540	67	22	45	992	711
1959	16	- 5	21	1,045	536	66	18	48	1,051	731
1960	22	1	21	1,050	534	82	31	51	1,117	756

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 22 "
Capital items charged to operating expenses = 5 "

TABLEAU 26. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, produits du papier, en dollars constants de 1949, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
7	—	7	34	19	78	42	36	961	647	1926
9	2	8	38	20	87	48	38	1,033	693	1927
7	- 1	8	40	20	86	46	41	1,104	740	1928
7	—	8	40	19	48	6	42	1,153	765	1929
10	2	8	40	20	54	11	43	1,184	774	1930
5	- 3	8	39	20	28	- 16	44	1,205	771	1931
2	- 5	7	35	16	8	- 34	42	1,200	746	1932
1	- 4	6	28	11	3	- 37	40	1,178	710	1933
2	- 2	5	23	8	9	- 30	38	1,150	676	1934
3	- 1	3	17	6	11	- 25	36	1,122	649	1935
3	—	2	12	6	12	- 22	34	1,100	625	1936
4	2	2	12	7	21	- 13	34	1,095	607	1937
2	—	3	14	8	14	- 20	34	1,092	591	1938
3	—	3	15	8	13	- 21	33	1,082	570	1939
23	18	5	25	16	45	10	35	1,096	565	1940
16	8	8	42	29	37	- 2	39	1,121	569	1941
20	9	11	56	37	38	- 4	41	1,129	566	1942
12	- 2	14	69	41	20	- 23	44	1,133	553	1943
16	—	16	80	40	35	- 11	46	1,141	536	1944
24	6	17	87	43	46	- 1	47	1,144	530	1945
9	- 8	17	84	42	81	35	46	1,159	547	1946
12	- 4	15	76	36	107	61	46	1,200	595	1947
12	- 2	14	72	33	107	60	47	1,253	656	1948
11	- 3	14	70	31	92	44	48	1,296	708	1949
11	- 2	12	61	29	83	35	48	1,325	748	1950
13	2	11	56	29	120	71	49	1,384	800	1951
14	2	12	60	30	119	67	52	1,462	869	1952
12	—	12	61	32	95	40	55	1,532	923	1953
11	- 1	12	61	31	80	22	58	1,599	953	1954
14	1	12	63	31	120	58	62	1,678	993	1955
19	5	14	67	35	203	136	68	1,816	1,090	1956
20	6	15	74	40	202	126	76	1,989	1,220	1957
13	- 3	15	77	42	97	16	81	2,109	1,292	1958
13	- 3	16	78	39	95	11	84	2,174	1,306	1959
14	- 1	16	79	37	118	31	87	2,246	1,326	1960

Vie présumée:

Construction de bâtiments	= 50 ans
Travaux de génie	= 55 "
Machines et outillage	= 22 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 27. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Paper Products, Constant 1957 Dollars, 1926 - 1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	51	36	15	762	576	53	26	27	592	340
1927	56	40	16	815	614	57	28	29	637	367
1928	75	58	17	881	663	41	10	31	673	386
1929	36	18	18	936	701	23	- 8	31	690	387
1930	10	- 9	19	958	705	54	21	32	711	394
1931	28	9	19	977	705	5	- 28	33	724	390
1932	6	- 14	20	992	702	3	- 29	32	709	362
1933	—	- 19	20	993	686	2	- 29	31	684	333
1934	2	- 18	20	993	667	7	- 22	30	651	308
1935	6	- 14	20	996	652	6	- 22	28	616	285
1936	4	- 16	20	1,000	637	9	- 18	27	588	266
1937	10	- 9	20	1,005	624	14	- 12	26	574	250
1938	6	- 14	20	1,012	613	10	- 15	25	560	237
1939	10	- 10	20	1,019	601	5	- 20	24	538	219
1940	13	- 8	20	1,028	592	20	- 4	24	534	207
1941	20	—	21	1,041	588	11	- 14	24	533	198
1942	8	- 12	21	1,051	582	17	- 6	23	514	189
1943	4	- 17	21	1,052	567	9	- 14	23	500	179
1944	16	- 4	21	1,058	556	12	- 10	22	489	167
1945	12	- 9	21	1,067	549	20	- 1	22	474	161
1946	52	31	22	1,094	560	53	32	22	473	176
1947	53	31	22	1,141	591	86	63	23	498	224
1948	44	21	23	1,184	616	94	70	24	538	291
1949	39	15	24	1,217	634	80	54	26	570	353
1950	29	4	25	1,243	644	77	50	27	600	405
1951	51	26	25	1,276	659	106	76	30	660	468
1952	38	13	26	1,313	678	116	82	33	732	546
1953	25	- 2	26	1,337	684	97	60	37	809	618
1954	24	- 3	27	1,353	682	76	35	40	891	665
1955	36	9	27	1,372	685	119	74	45	986	720
1956	88	60	28	1,420	719	182	130	51	1,132	822
1957	66	37	29	1,482	768	200	140	60	1,316	958
1958	25	- 5	30	1,511	784	99	32	66	1,458	1,044
1959	23	- 7	30	1,518	778	97	27	70	1,544	1,074
1960	32	2	30	1,526	776	120	46	75	1,641	1,110

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 22 "
Capital items charged to operating expenses = 5 "

TABLEAU 27. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, produits du papier, en dollars constants de 1957, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
9	—	10	48	27	113	62	52	1,402	944	1926
14	3	11	54	28	127	71	56	1,507	1,010	1927
10	- 2	12	57	29	126	66	60	1,611	1,078	1928
11	- 1	11	57	28	70	8	61	1,682	1,116	1929
14	3	11	57	29	78	16	63	1,727	1,128	1930
7	- 4	11	57	28	40	- 23	64	1,758	1,124	1931
3	- 7	10	50	22	12	- 50	62	1,751	1,087	1932
2	- 6	8	41	16	4	- 55	59	1,719	1,035	1933
3	- 4	7	33	11	12	- 43	56	1,678	986	1934
4	- 1	5	24	9	16	- 37	53	1,636	946	1935
4	1	4	18	9	17	- 33	50	1,605	911	1936
6	3	4	18	10	31	- 19	50	1,596	885	1937
3	- 1	4	20	11	20	- 30	49	1,592	861	1938
4	—	4	21	11	18	- 30	49	1,578	831	1939
33	26	7	36	23	66	14	52	1,597	823	1940
23	11	12	60	42	54	- 3	57	1,634	828	1941
29	13	16	81	54	55	- 5	60	1,646	824	1942
17	- 3	20	99	59	30	- 34	63	1,651	805	1943
22	- 1	23	115	57	51	- 15	66	1,662	780	1944
34	9	25	125	61	66	- 2	68	1,666	771	1945
13	- 11	24	120	60	119	52	67	1,687	796	1946
16	- 5	22	109	52	156	89	67	1,748	867	1947
18	- 3	21	103	48	156	88	69	1,825	955	1948
16	- 4	20	100	44	135	65	70	1,888	1,031	1949
15	- 2	18	88	41	121	52	69	1,931	1,090	1950
18	2	16	81	41	175	104	71	2,016	1,168	1951
20	3	17	85	44	174	98	76	2,131	1,268	1952
18	—	17	87	45	139	58	81	2,234	1,347	1953
16	- 1	18	87	45	116	31	85	2,331	1,392	1954
20	2	18	90	45	175	85	90	2,448	1,450	1955
27	8	19	97	50	297	198	99	2,649	1,592	1956
29	8	21	106	58	295	185	110	2,903	1,783	1957
18	- 4	22	110	60	142	24	118	3,079	1,888	1958
19	- 4	22	112	56	139	16	122	3,174	1,908	1959
21	- 2	23	113	53	173	46	127	3,280	1,939	1960

Vie présumée:

Construction de bâtiments = 50 ans
Travaux de génie = 55 "
Machines et outillage = 22 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 28. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Paper Products, Original Cost Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	21	16	5	250	202	22	13	9	208	135
1927	23	18	5	272	220	23	13	10	229	148
1928	32	26	6	300	242	17	6	11	246	158
1929	16	10	6	324	259	10	- 2	12	256	160
1930	5	- 2	7	334	263	21	9	12	268	163
1931	12	5	7	342	264	1	- 11	12	275	162
1932	2	- 5	7	348	264	—	- 12	12	272	151
1933	—	- 7	7	349	258	1	- 11	12	266	140
1934	1	- 6	7	349	252	3	- 9	12	259	130
1935	2	- 5	7	350	246	2	- 9	11	252	120
1936	2	- 5	7	352	241	3	- 8	11	246	112
1937	4	- 3	7	355	237	6	- 5	11	245	106
1938	3	- 4	7	358	234	5	- 6	11	242	100
1939	4	- 3	7	361	230	3	- 8	11	235	93
1940	5	- 2	7	365	227	10	- 1	11	234	88
1941	8	1	7	371	227	6	- 5	11	234	86
1942	4	- 4	8	377	226	9	- 1	10	224	83
1943	2	- 6	8	378	221	5	- 5	10	217	80
1944	8	—	8	383	218	7	- 3	10	213	76
1945	6	- 2	8	389	218	11	1	10	209	75
1946	27	19	8	404	226	28	18	10	211	85
1947	31	23	8	432	247	49	39	10	230	114
1948	29	20	9	462	268	60	48	12	264	158
1949	27	17	10	488	287	55	41	14	298	202
1950	21	11	10	511	301	57	42	15	334	244
1951	42	31	11	541	322	84	66	18	391	298
1952	33	22	11	577	349	96	75	21	465	368
1953	23	11	12	604	365	82	57	25	543	434
1954	21	9	12	624	375	66	38	28	615	482
1955	33	20	13	649	390	106	74	32	699	537
1956	85	71	14	705	436	172	134	38	837	642
1957	66	51	15	777	497	200	154	46	1,020	786
1958	25	9	16	819	527	102	49	53	1,168	887
1959	25	8	17	840	535	103	45	58	1,265	933
1960	34	17	17	864	548	131	68	63	1,376	990

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 22 "
Capital items charged to operating expenses = 5 "

TABLEAU 28. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, produits du papier, en coûts initiaux, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
4	—	4	22	12	48	29	19	480	349	1926
6	1	5	24	12	53	33	20	525	380	1927
4	- 1	5	25	13	53	31	22	572	412	1928
5	—	5	25	12	30	7	23	605	431	1929
6	1	5	24	12	31	7	24	626	438	1930
3	- 2	5	24	12	16	- 8	24	640	438	1931
1	- 3	4	21	9	4	- 19	23	641	424	1932
—	- 3	3	16	6	1	- 21	22	632	404	1933
2	- 1	3	13	4	4	- 17	21	621	386	1934
2	—	2	9	3	6	- 14	20	611	370	1935
1	—	1	7	3	7	- 13	20	605	357	1936
3	2	1	7	4	14	- 6	20	606	348	1937
2	—	2	9	5	9	- 11	20	609	339	1938
2	—	2	9	5	8	- 12	20	605	328	1939
16	13	3	17	11	31	10	21	616	327	1940
12	6	6	30	21	27	3	24	635	333	1941
16	8	8	42	28	30	4	26	643	337	1942
10	- 1	11	53	32	16	- 12	28	648	334	1943
12	—	12	62	32	28	- 2	30	658	326	1944
19	5	14	69	34	35	4	31	666	327	1945
8	- 6	14	68	34	62	31	31	682	345	1946
10	- 2	12	61	29	91	60	31	724	390	1947
12	—	12	59	28	101	68	33	784	454	1948
11	- 1	12	59	27	93	58	35	845	517	1949
12	1	11	54	27	90	54	36	899	572	1950
15	4	11	55	30	141	101	40	986	650	1951
17	4	13	63	34	146	101	45	1,105	752	1952
15	1	14	68	37	119	69	50	1,214	836	1953
14	—	14	72	38	101	47	54	1,310	894	1954
18	3	15	76	39	157	97	60	1,425	966	1955
26	9	17	85	45	283	214	69	1,627	1,122	1956
29	10	19	96	54	295	214	81	1,894	1,336	1957
19	- 2	21	104	58	146	56	90	2,091	1,472	1958
20	- 2	22	109	56	146	50	96	2,214	1,524	1959
23	—	23	113	55	186	84	102	2,354	1,592	1960

Vie présumée:

Construction de bâtiments	= 50 ans
Travaux de génie	= 55 "
Machines et outillage	= 22 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 29. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Printing, Publishing and Allied Industries, Current Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	1	—	1	52	35	4	1	3	89	53
1927	—	- 1	1	53	35	3	—	3	91	53
1928	9	8	1	58	39	7	4	3	95	55
1929	8	6	1	69	49	8	5	3	101	60
1930	—	- 1	1	71	50	4	1	3	99	58
1931	—	- 1	1	67	46	3	—	3	100	58
1932	1	- 1	1	64	43	2	- 2	4	107	61
1933	—	- 1	1	61	40	1	- 3	4	104	57
1934	—	- 1	1	61	39	1	- 2	3	103	54
1935	1	- 1	1	61	39	6	2	4	106	55
1936	—	- 1	1	62	38	2	- 2	4	109	56
1937	1	—	1	66	40	3	- 1	4	119	60
1938	1	- 1	1	66	39	3	- 1	4	120	59
1939	—	- 1	1	65	38	6	2	4	122	60
1940	1	- 1	1	66	37	4	—	5	139	67
1941	—	- 1	1	71	39	3	- 2	5	152	73
1942	—	- 1	2	75	40	2	- 3	5	154	73
1943	—	- 1	2	78	40	1	- 4	5	148	69
1944	—	- 1	2	79	40	2	- 3	5	144	66
1945	4	2	2	82	41	2	- 2	4	133	60
1946	3	1	2	89	45	4	—	4	125	56
1947	5	3	2	104	52	8	4	5	139	63
1948	7	5	2	122	63	12	7	5	158	75
1949	6	4	3	133	70	14	8	6	181	89
1950	5	2	3	144	76	14	8	7	206	105
1951	6	3	3	168	89	18	10	8	227	119
1952	3	—	4	182	96	11	4	7	222	119
1953	4	—	4	190	100	13	4	8	242	133
1954	12	8	4	195	103	20	11	9	259	147
1955	6	2	4	206	110	18	8	9	282	163
1956	5	1	4	219	117	20	10	10	310	182
1957	17	13	5	236	128	23	12	11	333	199
1958	13	8	5	252	141	20	8	12	356	217
1959	12	6	5	269	152	28	16	12	360	228
1960	7	2	6	283	161	22	9	13	389	253

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 30 "
Capital items charged to operating expenses = 5 "

TABLEAU 29. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, imprimerie, édition et industries connexes, en dollars courants, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
1	—	1	4	2	6	1	5	146	91	1926
1	—	1	4	2	4	—	5	148	90	1927
1	—	1	4	2	17	12	5	157	97	1928
1	—	1	4	2	17	11	6	175	111	1929
1	—	1	4	2	6	—	6	174	111	1930
—	—	1	4	2	4	- 2	5	171	106	1931
—	—	1	4	2	3	- 3	6	174	105	1932
—	—	1	3	1	1	- 4	5	169	99	1933
—	—	—	3	1	1	- 4	5	166	95	1934
1	—	—	2	1	7	2	5	169	95	1935
—	—	—	2	1	2	- 3	5	172	95	1936
—	—	—	2	1	4	- 1	6	187	100	1937
1	—	—	2	1	4	- 1	6	188	99	1938
1	—	1	3	2	7	1	6	190	99	1939
3	2	1	5	3	8	1	7	210	108	1940
3	1	2	8	5	5	- 3	8	231	117	1941
2	—	2	10	6	4	- 4	9	239	119	1942
2	- 1	2	11	6	3	- 6	9	237	115	1943
2	—	2	12	5	4	- 4	9	235	111	1944
3	1	2	11	5	9	1	8	226	106	1945
1	- 1	2	10	5	8	—	8	224	105	1946
1	- 1	2	10	4	15	6	9	252	120	1947
2	—	2	10	4	21	11	10	290	142	1948
2	—	2	10	4	22	11	11	324	163	1949
2	—	2	10	5	21	10	12	360	186	1950
2	—	2	10	6	27	14	13	405	214	1951
2	- 1	2	11	5	16	3	13	414	220	1952
2	—	2	10	5	18	4	14	442	237	1953
2	—	2	10	5	34	19	14	464	255	1954
2	—	2	11	5	26	11	16	499	279	1955
3	—	2	11	6	28	11	17	540	306	1956
3	—	2	12	7	43	25	18	581	334	1957
3	—	3	14	7	36	16	20	621	365	1958
4	1	3	14	7	44	24	20	644	388	1959
3	—	3	15	8	32	10	22	687	422	1960

Vie présumée:

Construction de bâtiments = 50 ans
Travaux de génie = 55 "
Machines et outillage = 30 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 30. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Printing, Publishing and Allied Industries, Constant 1949 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	1	—	2	84	57	7	2	5	144	86
1927	1	- 1	2	85	57	5	—	5	148	87
1928	15	13	2	93	63	11	6	5	154	90
1929	12	9	2	106	74	13	8	6	164	97
1930	—	- 2	2	111	78	8	2	6	172	102
1931	—	- 2	2	111	76	5	- 1	6	176	102
1932	1	- 1	2	111	75	4	- 2	6	178	101
1933	—	- 2	2	111	73	2	- 4	6	177	97
1934	—	- 2	2	111	71	2	- 4	6	175	93
1935	1	- 1	2	111	70	9	3	6	177	92
1936	—	- 2	2	111	68	3	- 3	6	180	92
1937	2	—	2	111	67	4	- 2	6	180	90
1938	1	- 1	2	112	66	5	- 1	6	180	88
1939	—	- 2	2	112	65	8	2	6	183	89
1940	1	- 1	2	112	63	6	- 1	6	186	90
1941	—	- 2	2	112	62	3	- 3	6	185	88
1942	—	- 2	2	112	60	2	- 4	6	180	85
1943	—	- 2	2	111	58	1	- 4	6	173	81
1944	—	- 2	2	111	56	3	- 3	6	168	77
1945	5	3	2	114	56	3	- 3	6	165	74
1946	4	2	2	118	59	6	—	6	164	73
1947	6	4	2	122	61	10	4	6	166	75
1948	7	5	2	128	66	14	8	6	172	81
1949	6	4	3	133	70	14	8	6	181	89
1950	5	2	3	137	73	13	7	6	189	96
1951	5	2	3	141	75	16	9	7	199	104
1952	3	—	3	144	76	10	3	7	207	111
1953	3	—	3	145	76	11	4	7	208	114
1954	9	6	3	149	79	16	9	7	213	121
1955	5	2	3	154	83	14	6	7	222	129
1956	4	1	3	156	84	15	7	8	230	136
1957	12	9	3	163	89	16	8	8	240	143
1958	9	6	3	171	96	14	6	8	247	150
1959	8	4	4	178	101	20	11	8	252	159
1960	5	1	4	182	103	14	6	9	258	168

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 30 "
Capital items charged to operating expenses = 5 "

TABLEAU 30. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, imprimerie, édition et industries connexes, en dollars constants de 1949, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
1	—	1	7	3	9	1	8	235	146	1926
1	—	1	7	3	7	- 1	8	240	147	1927
2	1	1	7	3	28	20	8	254	156	1928
2	1	1	7	4	27	18	9	277	175	1929
2	—	2	8	4	10	—	10	291	184	1930
1	- 1	2	8	4	6	- 3	10	295	182	1931
1	- 1	2	7	3	5	- 4	10	296	178	1932
—	- 1	1	6	2	2	- 7	9	295	173	1933
—	- 1	1	5	2	2	- 7	9	290	166	1934
1	—	1	4	1	12	3	9	291	164	1935
—	—	1	3	2	3	- 6	9	294	162	1936
1	—	1	3	2	7	- 2	9	294	158	1937
1	—	1	3	2	7	- 2	9	296	156	1938
1	—	1	4	2	10	1	9	300	156	1939
5	3	1	6	4	11	2	10	304	157	1940
3	1	2	10	7	6	- 4	10	306	156	1941
2	—	2	12	7	5	- 5	11	304	152	1942
2	- 1	3	13	7	4	- 7	11	298	145	1943
2	—	3	14	6	5	- 5	11	293	139	1944
4	- 1	3	14	7	12	- 1	11	293	137	1945
1	- 1	3	13	6	11	—	10	294	138	1946
2	- 1	2	11	5	18	8	10	299	142	1947
2	—	2	11	5	23	12	10	310	152	1948
2	—	2	10	4	22	11	11	324	163	1949
2	—	2	9	4	20	9	11	336	173	1950
2	—	2	8	4	23	12	11	349	184	1951
1	—	2	9	4	14	3	12	360	191	1952
1	—	2	8	4	15	4	12	361	194	1953
2	—	2	8	4	27	15	12	370	204	1954
2	—	2	8	4	20	8	12	384	215	1955
2	—	2	8	4	21	8	12	395	224	1956
2	—	2	8	5	30	17	13	411	237	1957
2	—	2	9	5	25	11	13	427	251	1958
2	—	2	10	5	30	16	14	438	265	1959
2	—	2	10	5	21	7	14	450	276	1960

Vie présumée:

Construction de bâtiments	= 50 ans
Travaux de génie	= 55 "
Machines et outillage	= 30 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 31. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Printing, Publishing and Allied Industries, Constant 1957 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	2	- 1	2	122	83	9	2	7	199	119
1927	1	- 1	2	124	82	7	1	7	205	120
1928	22	19	3	134	91	15	8	7	214	125
1929	17	14	3	153	108	18	11	8	228	134
1930	—	- 3	3	161	113	11	3	8	239	141
1931	1	- 2	3	161	110	7	- 1	8	244	142
1932	2	- 1	3	161	108	5	- 3	8	246	140
1933	1	- 2	3	162	107	2	- 6	8	245	135
1934	—	- 3	3	161	104	2	- 6	8	243	129
1935	2	- 2	3	161	101	13	4	8	245	128
1936	—	- 3	3	161	99	4	- 4	8	249	128
1937	3	—	3	162	97	6	- 3	8	249	125
1938	2	- 2	3	163	97	7	- 2	8	250	122
1939	1	- 2	3	163	94	12	3	8	254	123
1940	2	- 2	3	163	92	8	- 1	9	258	125
1941	—	- 3	3	163	89	4	- 4	8	256	122
1942	1	- 3	3	162	86	3	- 5	8	250	118
1943	—	- 3	3	162	84	2	- 6	8	240	112
1944	—	- 3	3	161	81	4	- 4	8	233	107
1945	8	4	3	165	82	4	- 4	8	229	103
1946	6	2	3	170	85	8	—	8	228	101
1947	9	6	4	177	89	14	6	8	230	104
1948	11	7	4	185	95	19	11	8	238	113
1949	9	5	4	193	101	19	11	8	251	123
1950	7	3	4	199	106	18	10	9	262	134
1951	8	4	4	205	109	22	13	9	276	145
1952	4	—	4	208	110	14	5	10	287	153
1953	4	—	4	210	110	15	5	10	288	158
1954	13	9	4	216	114	22	13	10	295	167
1955	7	2	4	224	120	19	9	10	308	178
1956	6	1	4	227	122	21	10	11	319	188
1957	17	13	5	236	128	23	12	11	333	199
1958	13	8	5	248	139	19	8	11	342	209
1959	11	6	5	258	146	28	16	12	349	221
1960	7	2	5	264	150	20	8	12	358	233

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 30 "
Capital items charged to operating expenses = 5 "

TABLEAU 31. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, imprimerie, édition et industries connexes, en dollars constants de 1957, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
2	—	2	10	5	13	2	11	332	207	1926
2	—	2	10	5	10	- 1	11	339	207	1927
3	1	2	10	5	40	28	12	358	221	1928
3	1	2	10	6	38	26	13	391	248	1929
2	—	2	11	6	14	—	14	411	260	1930
1	- 1	2	11	6	9	- 5	14	416	258	1931
1	- 1	2	11	5	7	- 6	14	418	253	1932
1	- 1	2	9	3	4	- 10	13	416	245	1933
—	- 1	1	7	2	2	- 10	13	410	235	1934
2	1	1	5	2	16	4	12	411	232	1935
1	—	1	4	2	5	- 8	12	414	229	1936
1	—	1	4	2	10	- 3	12	415	224	1937
2	—	1	5	3	10	- 3	12	418	222	1938
2	1	1	6	3	14	2	13	423	221	1939
7	5	2	9	6	16	2	14	430	222	1940
5	2	3	14	10	9	- 5	14	433	221	1941
4	—	3	17	10	7	- 8	15	429	214	1942
3	- 1	4	19	10	5	- 10	15	421	206	1943
4	- 1	4	20	9	7	- 8	15	414	197	1944
5	1	4	20	10	17	2	15	414	194	1945
2	- 2	4	18	9	15	—	15	416	195	1946
2	- 1	3	16	8	25	11	14	423	201	1947
3	—	3	15	7	32	17	15	439	215	1948
3	—	3	15	6	31	16	15	459	231	1949
3	—	3	13	6	28	12	15	475	245	1950
3	—	2	12	6	32	17	16	493	260	1951
2	- 1	2	12	6	20	4	16	508	270	1952
2	—	2	12	6	21	5	16	510	274	1953
3	—	2	12	6	38	22	16	523	288	1954
2	—	2	12	6	29	12	17	543	304	1955
3	—	2	12	6	29	12	17	558	316	1956
3	—	2	12	7	43	25	18	581	334	1957
2	—	3	13	7	35	16	19	604	354	1958
3	1	3	14	7	42	23	19	621	374	1959
3	—	3	14	7	30	10	20	636	390	1960

Vie présumée:

Construction de bâtiments	= 50 ans
Travaux de génie	= 55 "
Machines et outillage	= 30 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 32. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Printing, Publishing and Allied Industries, Original Cost Dollars, 1926 - 1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	1	—	1	37	28	4	2	2	66	44
1927	1	—	1	37	28	3	1	2	69	46
1928	9	8	1	42	32	6	4	2	74	49
1929	7	6	1	51	39	9	6	3	80	54
1930	—	- 1	1	54	42	5	2	3	86	57
1931	—	- 1	1	54	41	3	—	3	89	58
1932	1	—	1	55	41	2	- 1	3	90	57
1933	—	- 1	1	55	40	1	- 2	3	91	56
1934	—	- 1	1	55	39	1	- 2	3	91	54
1935	1	—	1	55	38	5	2	3	93	54
1936	—	- 1	1	55	38	1	- 2	3	96	54
1937	1	—	1	56	37	3	—	3	97	53
1938	1	—	1	56	37	3	—	3	99	53
1939	—	- 1	1	57	36	5	2	3	102	54
1940	1	—	1	57	35	5	1	4	106	56
1941	—	- 1	1	57	34	3	- 1	4	107	55
1942	—	- 1	1	57	34	2	- 2	4	107	54
1943	—	- 1	1	57	33	2	- 2	4	106	52
1944	—	- 1	1	57	32	3	- 1	4	105	50
1945	4	3	1	59	33	3	- 1	4	105	49
1946	3	2	1	62	35	5	1	4	106	49
1947	5	4	1	66	38	9	5	4	110	52
1948	7	6	1	72	42	12	8	4	117	58
1949	7	5	2	79	48	14	10	4	127	67
1950	5	3	2	84	52	15	10	5	137	77
1951	6	4	2	89	56	18	13	5	150	88
1952	3	1	2	94	58	11	6	5	161	98
1953	4	2	2	97	60	13	7	6	166	104
1954	12	10	2	104	66	20	14	6	177	114
1955	6	4	2	112	73	17	11	6	192	127
1956	5	3	2	118	76	20	13	7	207	139
1957	18	15	3	128	85	23	15	8	225	154
1958	13	10	3	143	98	20	12	8	241	167
1959	12	9	3	155	107	29	20	9	258	183
1960	7	4	3	164	114	22	13	9	277	199

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 30 "
Capital items charged to operating expenses = 5 "

TABLEAU 32. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, imprimerie, édition et industries connexes, en coûts initiaux, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
1	—	1	4	2	6	2	4	107	74	1926
1	—	1	5	2	5	1	4	111	76	1927
1	—	1	4	2	17	13	4	120	82	1928
1	—	1	4	2	17	12	5	135	95	1929
1	—	1	5	3	6	1	5	145	102	1930
1	—	1	5	2	4	- 1	5	148	102	1931
—	- 1	1	4	2	3	- 2	5	149	100	1932
1	—	1	4	1	2	- 3	5	150	97	1933
—	—	—	3	1	1	- 4	5	148	94	1934
—	—	—	2	1	7	2	5	150	93	1935
—	—	—	2	1	2	- 3	5	153	93	1936
—	—	—	2	1	5	—	5	154	91	1937
—	—	—	2	1	5	—	5	157	91	1938
—	—	—	3	2	7	2	5	161	92	1939
3	2	1	4	3	9	3	6	167	94	1940
2	1	1	7	5	5	- 1	6	171	95	1941
2	—	2	9	6	4	- 2	6	173	93	1942
2	—	2	10	5	3	- 4	7	173	90	1943
2	—	2	11	5	5	- 2	7	173	87	1944
3	1	2	11	5	9	2	7	176	87	1945
1	- 1	2	10	5	8	1	7	179	89	1946
2	—	2	9	4	15	8	7	185	94	1947
2	—	2	9	4	21	14	7	198	105	1948
2	—	2	9	4	22	14	8	214	119	1949
2	—	2	8	4	22	14	8	229	133	1950
3	1	2	8	5	26	18	8	247	149	1951
2	—	2	9	5	16	7	9	264	161	1952
2	—	2	9	5	18	9	9	272	169	1953
2	—	2	10	5	34	24	10	291	185	1954
2	—	2	10	5	27	16	11	315	205	1955
3	1	2	10	6	28	17	11	335	221	1956
3	1	2	11	6	43	31	12	364	245	1957
2	—	2	12	6	36	23	13	397	272	1958
4	1	3	13	7	43	29	14	426	298	1959
3	—	3	14	8	32	17	15	455	321	1960

Vie présumée:

Construction de bâtiments = 50 ans
Travaux de génie = 55 "
Machines et outillage = 30 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 33. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Iron and Steel Products, Current Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	4	—	4	194	120	4	- 10	14	288	109
1927	5	1	4	199	121	4	- 9	13	278	99
1928	5	—	4	203	122	7	- 6	13	271	92
1929	8	4	5	218	130	10	- 3	13	265	88
1930	12	8	5	220	132	5	- 6	11	239	77
1931	5	—	5	214	128	5	- 5	10	218	68
1932	—	- 4	5	205	120	2	- 8	10	205	62
1933	1	- 4	4	196	111	1	- 7	8	176	53
1934	2	- 2	4	196	108	2	- 5	7	155	49
1935	2	- 2	4	198	107	3	- 4	6	136	46
1936	3	- 1	4	201	106	3	- 3	6	122	44
1937	10	5	5	219	115	8	3	6	120	49
1938	5	—	5	224	116	5	—	5	107	50
1939	4	- 1	5	226	114	5	—	5	101	50
1940	5	—	5	232	116	15	10	5	114	60
1941	10	4	6	257	127	32	25	7	144	83
1942	7	1	6	278	137	38	29	9	180	115
1943	4	- 2	6	296	143	24	14	10	206	137
1944	10	3	7	306	146	22	12	11	225	150
1945	13	6	7	318	152	18	8	11	229	151
1946	15	7	8	347	168	22	11	11	235	154
1947	16	7	9	400	195	39	25	14	286	190
1948	19	9	10	463	228	37	20	17	348	232
1949	15	4	11	496	245	38	18	19	403	270
1950	14	2	12	528	261	31	9	22	458	307
1951	47	34	14	618	313	50	25	25	521	348
1952	46	31	15	692	366	90	62	28	587	397
1953	36	19	16	744	405	78	46	32	679	461
1954	22	5	17	754	416	66	30	36	764	510
1955	27	10	17	777	433	68	28	40	851	554
1956	40	22	18	822	470	122	75	48	998	642
1957	54	35	19	866	516	125	69	56	1,172	751
1958	36	16	20	886	550	91	28	62	1,312	828
1959	41	21	20	916	584	125	58	67	1,405	871
1960	47	26	21	960	624	150	75	75	1,571	962

Assumed Life:

Building construction = 45 years
Engineering construction = 50 "
Machinery and equipment = 21 "
Capital items charged to operating expenses = 5 "

TABLEAU 33. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, produits du fer et de l'acier, en dollars courants, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation				Total						
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Année
en millions de dollars										
1	—	1	5	3	10	- 9	19	487	231	1926
2	—	1	5	3	11	- 8	19	482	222	1927
2	—	1	6	3	14	- 5	19	480	217	1928
2	1	1	7	4	20	1	19	489	221	1929
2	—	1	7	4	19	1	18	466	212	1930
1	—	1	7	3	11	- 6	16	439	199	1931
—	- 1	1	6	3	2	- 13	16	416	184	1932
—	- 1	1	5	2	2	- 12	14	377	166	1933
—	—	1	4	2	5	- 7	13	355	159	1934
1	—	1	3	1	6	- 6	12	337	155	1935
1	—	1	3	2	7	- 4	11	327	152	1936
2	1	1	4	2	20	9	11	343	166	1937
1	—	1	5	3	11	—	11	336	170	1938
1	—	1	6	3	10	—	11	332	167	1939
11	9	2	11	8	31	18	13	358	184	1940
22	17	6	28	22	64	46	18	429	232	1941
26	16	11	53	39	71	46	25	511	291	1942
16	1	15	73	48	44	13	31	575	328	1943
16	- 2	18	88	48	48	13	35	619	344	1944
18	- 1	19	94	45	49	12	37	641	348	1945
6	- 12	17	85	37	42	6	36	667	359	1946
8	- 7	15	76	31	63	25	38	762	416	1947
8	- 6	14	68	28	64	24	40	879	488	1948
8	- 4	12	61	24	60	18	42	960	540	1949
8	- 3	10	52	23	52	8	44	1,038	591	1950
11	1	10	50	25	108	60	48	1,189	686	1951
15	5	11	53	27	151	98	54	1,332	790	1952
15	3	12	58	32	129	68	60	1,481	898	1953
13	—	12	62	34	101	36	66	1,581	960	1954
14	—	14	69	36	110	38	71	1,697	1,024	1955
22	6	16	81	41	184	102	82	1,901	1,153	1956
22	4	18	91	48	202	109	93	2,130	1,315	1957
17	- 2	19	96	51	144	42	101	2,295	1,429	1958
25	4	20	102	53	190	83	108	2,423	1,508	1959
27	4	23	114	59	224	105	119	2,645	1,645	1960

Vie présumée:

Construction de bâtiments = 45 ans
Travaux de génie = 50 "
Machines et outillage = 21 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 34. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Iron and Steel Products, Constant 1949 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	7	—	7	317	195	7	- 15	22	462	176
1927	8	1	7	322	196	7	- 14	22	452	161
1928	8	—	7	327	196	12	- 9	21	439	149
1929	13	5	7	334	199	16	- 5	20	429	142
1930	20	12	8	348	208	9	- 11	20	417	134
1931	8	—	8	359	214	9	- 10	19	398	124
1932	1	- 7	8	361	210	3	- 15	18	368	112
1933	1	- 7	8	359	204	2	- 13	15	323	98
1934	5	- 3	8	359	198	4	- 9	13	272	87
1935	4	- 4	8	361	195	4	- 7	11	231	79
1936	6	- 2	8	364	192	5	- 5	10	204	73
1937	17	9	8	373	195	12	4	8	179	73
1938	9	—	8	384	200	8	—	8	159	75
1939	7	- 1	9	390	199	8	—	7	150	75
1940	8	—	9	397	198	21	13	7	156	82
1941	16	7	9	407	201	40	32	9	180	104
1942	11	2	9	418	206	45	35	10	215	137
1943	6	- 3	9	423	205	29	17	12	246	163
1944	14	5	10	430	205	26	14	13	268	179
1945	18	8	10	442	212	23	10	14	288	190
1946	20	10	10	456	221	29	14	15	308	202
1947	19	8	10	471	230	46	30	16	338	224
1948	20	10	11	485	239	40	22	18	374	250
1949	15	4	11	496	245	38	18	19	403	270
1950	13	2	11	502	248	28	8	20	422	283
1951	40	28	12	520	263	43	22	21	445	298
1952	36	24	12	547	289	76	52	24	496	335
1953	27	14	12	566	309	65	38	27	560	380
1954	17	4	13	576	318	54	24	29	616	411
1955	20	7	13	581	324	53	22	32	667	434
1956	29	16	13	587	335	90	55	35	734	472
1957	38	24	13	597	356	87	48	39	818	524
1958	24	11	13	601	373	61	19	42	884	558
1959	27	14	13	604	386	84	39	45	946	587
1960	30	17	14	616	401	98	49	49	1,030	631

Assumed Life:

Building construction = 45 years
Engineering construction = 50 "
Machinery and equipment = 21 "
Capital items charged to operating expenses = 5 "

TABLEAU 34. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, produits du fer et de l'acier, en dollars constants de 1949, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
2	—	2	8	4	16	- 15	31	787	375	1926
2	1	2	9	5	18	- 12	30	783	361	1927
3	1	2	10	5	22	- 8	30	776	351	1928
3	1	2	11	6	32	2	30	775	348	1929
3	—	2	12	7	31	1	30	778	349	1930
2	- 1	2	13	6	19	- 11	29	770	344	1931
1	- 2	2	12	5	5	- 23	28	740	327	1932
1	- 1	2	10	4	4	- 22	25	692	305	1933
1	- 1	2	8	3	10	- 13	23	639	288	1934
1	—	1	6	2	10	- 10	20	598	276	1935
1	—	1	5	3	12	- 7	19	572	268	1936
2	1	1	6	4	32	14	18	558	271	1937
2	—	1	7	4	18	1	18	551	279	1938
2	—	2	8	4	17	- 1	17	549	279	1939
16	12	3	16	11	44	25	19	568	291	1940
29	21	7	36	28	84	60	25	623	333	1941
32	20	13	65	48	88	56	32	698	391	1942
19	1	18	89	58	54	15	39	758	426	1943
19	- 2	21	106	58	60	16	44	805	442	1944
22	- 1	24	119	57	64	16	47	849	458	1945
7	- 15	22	112	48	56	9	47	876	471	1946
9	- 8	18	89	37	74	30	44	898	490	1947
8	- 6	14	72	30	68	25	43	931	518	1948
8	- 4	12	61	24	60	18	42	960	540	1949
7	- 2	10	48	21	48	8	41	972	552	1950
9	1	8	41	20	92	51	41	1,006	581	1951
13	4	9	44	23	125	81	44	1,086	647	1952
12	3	9	47	26	104	55	49	1,174	715	1953
10	—	10	50	27	81	29	52	1,243	756	1954
11	—	11	54	28	85	29	55	1,301	786	1955
16	4	12	59	30	134	75	60	1,380	838	1956
16	3	13	64	34	140	76	65	1,479	913	1957
12	- 1	13	65	34	97	29	68	1,550	965	1958
16	3	14	68	35	127	56	72	1,618	1,008	1959
17	2	15	74	38	146	68	77	1,720	1,069	1960

Vie présumée:

Construction de bâtiments = 45 ans
Travaux de génie = 50 "
Machines et outillage = 21 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 35. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Iron and Steel Products, Constant 1957 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	10	—	10	460	283	9	- 22	32	662	252
1927	12	2	10	468	284	10	- 20	31	648	230
1928	11	1	10	475	285	17	- 13	30	630	214
1929	19	8	11	485	289	23	- 6	29	615	204
1930	29	18	11	505	302	12	- 16	28	598	193
1931	12	—	12	522	311	13	- 14	27	570	178
1932	1	- 10	12	524	306	4	- 21	25	527	160
1933	2	- 10	12	521	296	3	- 19	22	463	140
1934	7	- 5	12	521	288	6	- 12	19	390	124
1935	6	- 5	12	524	283	6	- 9	16	332	114
1936	8	- 4	12	528	279	7	- 7	14	292	105
1937	25	13	12	542	283	18	6	12	257	104
1938	12	—	12	558	290	11	—	11	228	107
1939	11	- 2	12	567	289	11	1	10	215	108
1940	12	- 1	13	576	288	30	19	11	224	118
1941	23	10	13	591	292	57	45	12	258	150
1942	16	2	13	606	298	64	50	15	309	197
1943	9	- 5	14	615	297	41	24	17	352	234
1944	21	7	14	625	298	38	20	18	384	256
1945	26	12	14	642	307	33	14	20	413	272
1946	28	14	15	663	320	41	20	21	441	289
1947	27	12	15	684	333	66	43	23	485	321
1948	30	14	16	704	346	56	31	26	536	358
1949	21	5	16	720	356	54	26	28	577	387
1950	19	2	16	729	360	41	12	29	605	406
1951	57	41	17	755	382	61	31	30	638	427
1952	53	35	18	794	420	109	75	34	710	480
1953	39	21	18	822	448	93	54	38	802	545
1954	24	6	18	837	462	77	35	42	884	589
1955	29	11	19	843	470	76	31	46	956	622
1956	42	23	19	852	487	129	79	50	1,052	677
1957	54	35	19	867	516	125	69	56	1,172	751
1958	35	16	19	873	542	88	27	60	1,267	799
1959	39	20	19	877	560	120	56	65	1,356	841
1960	44	24	20	895	582	140	70	70	1,476	904

Assumed Life:

Building construction = 45 years
Engineering construction = 50 "
Machinery and equipment = 21 "
Capital items charged to operating expenses = 5 "

TABLEAU 33. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, produits du fer et de l'acier, en dollars constants de 1957, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
3	—	2	12	6	22	- 22	44	1,134	541	1926
4	1	2	12	7	26	- 18	44	1,128	521	1927
4	1	3	14	8	32	- 11	43	1,118	507	1928
5	1	3	16	9	46	3	43	1,116	502	1929
4	—	4	18	10	45	2	43	1,121	504	1930
2	- 1	4	18	9	27	- 15	42	1,110	498	1931
1	- 2	3	17	8	6	- 34	40	1,068	473	1932
1	- 2	3	14	5	6	- 31	36	998	441	1933
1	- 1	2	11	4	14	- 18	32	923	416	1934
2	—	2	8	4	14	- 14	29	864	400	1935
2	—	1	7	4	17	- 10	27	827	388	1936
4	2	2	8	5	46	20	26	807	393	1937
3	—	2	10	6	26	1	25	796	403	1938
2	—	2	12	6	24	- 1	25	794	403	1939
22	18	4	22	15	64	36	28	822	421	1940
41	31	10	52	40	121	86	36	901	482	1941
47	28	19	94	69	127	80	47	1,008	564	1942
27	2	26	128	84	77	22	56	1,094	615	1943
28	- 3	31	153	84	86	24	63	1,162	638	1944
32	- 2	34	170	81	91	23	68	1,226	661	1945
40	- 22	32	160	70	80	13	68	1,264	679	1946
34	- 12	26	128	53	107	43	64	1,296	707	1947
32	- 8	21	104	42	98	37	62	1,344	747	1948
12	- 6	18	88	35	87	26	61	1,385	778	1949
10	- 4	14	69	30	69	11	59	1,403	796	1950
13	1	12	59	29	132	73	59	1,452	838	1951
18	6	13	63	33	180	116	64	1,567	933	1952
17	4	14	68	37	149	79	70	1,693	1,030	1953
15	1	14	72	40	116	41	75	1,792	1,090	1954
16	1	15	77	40	122	42	80	1,876	1,132	1955
23	6	17	84	43	103	103	86	1,989	1,207	1956
22	4	18	91	48	100	104	93	2,130	1,316	1957
17	- 1	19	93	50	140	41	98	2,253	1,391	1958
24	4	19	97	51	155	87	103	2,330	1,451	1959
25	4	21	106	54	160	96	111	2,476	1,540	1960

Vie présumée:

Construction de bâtiments	= 45 ans
Travaux de génie	= 50 "
Machines et outillage	= 21 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 36. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Iron and Steel Products, Original Cost Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	5	2	3	121	80	4	– 5	9	187	81
1927	5	2	3	125	82	5	– 4	9	186	76
1928	5	2	3	129	84	7	– 2	9	184	73
1929	8	5	3	135	88	10	1	9	185	73
1930	12	9	3	144	95	5	– 4	9	184	72
1931	4	1	3	153	100	5	– 4	9	180	68
1932	–	– 3	3	154	100	2	– 6	8	171	63
1933	–	– 3	3	154	97	1	– 6	7	156	56
1934	2	– 1	3	155	95	3	– 4	7	139	51
1935	3	– 1	4	157	94	3	– 3	6	126	47
1936	4	–	4	159	93	3	– 3	6	117	44
1937	10	6	4	165	96	8	3	5	109	44
1938	5	1	4	172	100	5	–	5	101	46
1939	4	–	4	176	101	5	1	4	96	47
1940	5	1	4	180	101	15	10	5	100	52
1941	10	6	4	187	105	32	26	6	119	71
1942	7	3	4	195	109	37	30	7	148	99
1943	4	–	4	200	110	24	16	8	174	122
1944	10	6	4	207	113	22	13	9	194	136
1945	13	8	5	217	120	18	8	10	211	147
1946	15	10	5	230	129	22	11	11	228	157
1947	16	11	5	244	139	39	27	12	254	176
1948	20	14	6	260	151	37	23	14	287	201
1949	14	8	6	275	162	37	22	15	318	224
1950	13	7	6	287	170	30	14	16	344	242
1951	47	40	7	315	194	50	32	18	377	265
1952	46	38	8	358	233	90	69	21	442	316
1953	36	27	9	394	266	79	54	25	523	377
1954	22	13	9	419	286	66	38	28	594	422
1955	27	17	10	438	300	68	37	31	659	460
1956	40	30	10	465	324	122	86	36	752	522
1957	54	43	11	504	361	126	84	42	873	607
1958	36	24	12	538	394	90	44	46	975	670
1959	40	28	12	568	421	125	74	51	1,076	729
1960	47	34	13	606	452	150	92	58	1,208	812

Assumed Life:

Building construction = 45 years
Engineering construction = 50 "
Machinery and equipment = 21 "
Capital items charged to operating expenses = 5 "

TABLEAU 36. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, produits du fer et de l'acier, en coûts initiaux, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
1	—	1	5	3	10	- 3	13	313	164	1926
1	—	1	5	3	11	- 2	13	316	161	1927
1	—	1	6	3	14	1	13	319	161	1928
2	1	1	7	4	20	7	13	327	165	1929
2	—	2	8	4	20	6	14	336	171	1930
1	- 1	2	8	4	11	- 3	14	340	172	1931
—	- 1	1	7	3	3	- 10	13	332	166	1932
—	- 1	1	6	2	2	- 10	12	316	155	1933
1	—	1	4	2	5	- 6	11	299	148	1934
1	—	1	3	1	6	- 4	10	286	143	1935
1	—	1	3	2	7	- 3	10	279	139	1936
2	1	1	3	2	20	10	10	277	143	1937
1	—	1	4	3	12	2	10	277	149	1938
1	—	1	5	3	10	1	9	277	150	1939
11	9	2	11	8	31	20	11	291	161	1940
22	17	5	27	20	64	49	15	333	196	1941
26	16	10	50	37	71	50	21	393	245	1942
16	2	14	70	46	44	17	27	444	279	1943
16	- 1	17	84	47	48	18	30	485	296	1944
18	- 1	19	95	46	49	15	34	524	313	1945
6	- 12	18	90	39	43	9	34	547	324	1946
8	- 6	14	72	30	63	31	32	570	344	1947
8	- 4	12	59	24	64	33	31	606	376	1948
8	- 2	10	51	21	61	29	32	645	407	1949
7	- 1	8	42	20	52	21	31	673	432	1950
11	3	8	40	21	108	75	33	732	484	1951
15	6	9	46	26	151	113	38	846	574	1952
15	4	11	54	31	128	84	44	970	673	1953
13	1	12	60	33	102	52	50	1,072	741	1954
14	1	13	65	35	109	55	54	1,163	795	1955
22	7	15	74	39	184	123	61	1,291	884	1956
23	6	17	83	45	202	133	69	1,459	1,012	1957
18	—	18	88	48	144	68	76	1,601	1,113	1958
25	6	19	95	51	191	108	83	1,738	1,201	1959
27	6	21	107	56	223	131	92	1,920	1,320	1960

Vie présumée:

Construction de bâtiments = 45 ans
Travaux de génie = 50 "
Machines et outillage = 21 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 37. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Transportation Equipment, Current Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	1	- 3	4	170	112	1	- 4	5	156	88
1927	5	—	4	174	111	3	- 2	5	155	84
1928	7	2	4	181	114	6	1	5	159	83
1929	8	3	5	197	122	6	—	6	164	84
1930	2	- 3	5	196	119	3	- 2	5	155	77
1931	—	- 4	5	185	108	2	- 2	5	150	71
1932	—	- 4	4	175	99	2	- 3	5	153	70
1933	1	- 4	4	168	91	2	- 3	5	149	65
1934	2	- 2	4	169	89	1	- 4	5	154	64
1935	2	- 2	4	172	87	3	- 2	5	158	63
1936	1	- 3	4	174	85	2	- 3	5	162	62
1937	5	1	5	188	89	5	- 1	6	182	67
1938	14	10	5	195	94	6	—	6	186	67
1939	3	- 2	5	201	96	4	- 2	6	190	66
1940	3	- 2	5	205	96	8	1	7	208	71
1941	3	- 2	6	223	102	9	1	7	223	79
1942	28	22	6	249	116	18	10	8	225	88
1943	7	—	7	276	134	14	6	7	216	97
1944	2	- 5	7	281	133	5	- 2	7	205	100
1945	2	- 5	7	283	130	9	2	6	186	94
1946	5	- 2	7	300	133	10	4	6	173	94
1947	5	- 3	8	339	147	9	3	6	184	108
1948	5	- 4	10	383	162	10	4	6	196	122
1949	7	- 3	10	404	165	15	8	7	216	137
1950	10	- 1	10	426	172	17	9	8	248	158
1951	22	10	12	479	199	27	18	10	287	184
1952	37	25	12	507	230	25	14	10	315	202
1953	47	34	13	530	268	50	38	12	358	234
1954	21	8	13	529	287	44	31	14	410	274
1955	20	7	13	536	302	34	19	15	456	307
1956	17	3	14	553	321	44	26	17	520	350
1957	18	4	14	556	336	44	25	20	589	395
1958	17	3	14	552	345	38	16	21	641	431
1959	20	6	14	571	360	45	23	22	669	450
1960	16	2	15	598	374	32	8	24	715	479

Assumed Life:

Building construction = 40 years
Engineering construction = 45 "
Machinery and equipment = 30 "
Capital items charged to operating expenses = 5 "

TABLEAU 37. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, matériel de transport, en dollars courants, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
—	—	—	2	1	2	- 8	10	329	201	1926
1	—	—	2	1	8	- 2	10	332	196	1927
1	1	1	3	2	14	4	10	344	199	1928
1	—	1	4	2	15	4	11	365	208	1929
1	—	1	4	2	6	- 5	11	355	198	1930
—	—	1	4	2	3	- 7	10	338	182	1931
—	—	1	4	2	3	- 8	10	332	170	1932
—	—	1	3	1	2	- 7	10	320	158	1933
—	—	—	2	1	4	- 6	10	326	154	1934
—	—	—	2	1	6	- 4	10	332	151	1935
1	—	—	2	1	4	- 6	10	338	148	1936
2	1	1	3	2	12	1	11	372	158	1937
2	1	1	4	3	22	11	12	386	163	1938
1	—	1	5	3	9	- 4	12	396	166	1939
9	7	2	10	7	20	6	14	424	174	1940
12	7	4	21	15	23	6	17	467	196	1941
17	10	7	35	24	63	42	21	509	229	1942
12	2	10	48	31	32	8	24	540	262	1943
8	- 3	11	57	31	15	- 10	25	542	264	1944
11	- 1	12	58	28	21	- 3	25	527	252	1945
3	- 7	10	53	22	19	- 5	24	526	250	1946
3	- 7	9	46	18	17	- 7	24	569	273	1947
3	- 4	7	37	14	18	- 5	23	616	297	1948
4	- 2	6	31	11	26	2	23	651	313	1949
4	- 1	5	24	10	31	8	24	698	340	1950
5	1	4	21	11	54	28	26	787	394	1951
6	1	4	22	12	68	40	27	845	443	1952
8	3	5	26	14	106	76	30	914	515	1953
7	1	6	30	17	73	40	33	969	578	1954
6	—	7	33	18	61	26	35	1,026	627	1955
8	—	7	37	19	68	30	38	1,110	690	1956
8	—	8	40	20	70	29	41	1,186	752	1957
7	- 1	8	41	20	61	18	43	1,234	796	1958
8	—	8	39	19	74	29	44	1,279	829	1959
6	- 2	8	39	19	55	9	46	1,352	872	1960

Vie présumée:

Construction de bâtiments = 40 ans
Travaux de génie = 45 "
Machines et outillage = 30 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 38. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Transportation Equipment, Constant 1949 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	1	- 6	7	280	184	2	- 7	8	251	141
1927	8	1	7	284	181	5	- 4	8	253	136
1928	11	4	7	293	184	10	1	9	259	135
1929	13	5	8	304	189	9	—	9	266	136
1930	3	- 5	8	311	189	6	- 3	9	271	134
1931	—	- 7	8	312	183	5	- 4	9	273	130
1932	—	- 7	8	311	176	4	- 5	9	274	125
1933	1	- 7	8	311	169	3	- 6	9	273	120
1934	4	- 4	8	312	164	2	- 7	9	271	113
1935	4	- 3	8	315	160	5	- 4	9	270	108
1936	2	- 6	8	317	157	4	- 5	9	270	103
1937	9	1	8	320	153	8	- 1	9	273	100
1938	25	17	8	336	161	9	—	9	278	99
1939	5	- 4	9	349	168	7	- 3	9	284	98
1940	6	- 3	9	352	165	11	1	10	285	97
1941	5	- 4	9	355	161	11	2	9	279	99
1942	42	33	9	375	176	21	12	9	270	106
1943	9	—	10	396	192	16	8	9	258	116
1944	2	- 8	10	397	188	6	- 2	8	243	118
1945	3	- 7	10	395	181	11	3	8	233	119
1946	7	- 3	10	396	176	14	6	8	227	123
1947	6	- 4	10	399	173	10	3	7	218	128
1948	6	- 4	10	401	169	11	4	7	211	131
1949	7	- 3	10	404	165	15	8	7	216	137
1950	9	- 1	10	404	163	16	8	8	229	145
1951	18	8	10	402	167	23	15	8	246	157
1952	29	19	10	401	181	21	12	9	266	171
1953	36	26	10	404	204	42	32	10	295	193
1954	16	6	10	404	220	36	25	11	331	221
1955	15	5	10	401	225	27	15	12	357	241
1956	12	2	10	394	229	32	19	13	383	258
1957	12	3	9	383	232	31	17	14	411	276
1958	11	2	9	374	234	25	11	14	432	290
1959	14	4	9	376	237	30	15	15	450	303
1960	10	1	10	384	240	21	6	16	469	314

Assumed Life:

Building construction = 40 years
Engineering construction = 45 "
Machinery and equipment = 30 "
Capital items charged to operating expenses = 5 "

TABLEAU 38. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, matériel de transport, en dollars constants de 1949, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
—	—	1	4	2	4	- 12	16	535	328	1926
1	—	1	4	2	14	- 3	16	541	320	1927
2	1	1	5	3	24	7	17	557	322	1928
2	1	1	6	4	24	6	18	577	328	1929
1	—	1	7	4	10	- 8	18	589	327	1930
1	—	1	7	4	6	- 12	18	592	317	1931
1	- 1	1	7	3	5	- 14	18	592	304	1932
—	- 1	1	6	3	4	- 14	18	590	291	1933
—	—	1	4	2	6	- 11	18	587	278	1934
1	—	1	3	1	10	- 8	18	588	269	1935
2	1	1	3	2	7	- 10	17	590	262	1936
2	1	1	4	3	19	1	18	598	256	1937
2	1	1	6	4	37	18	19	620	265	1938
2	—	2	8	5	14	- 6	20	640	271	1939
12	9	3	14	10	29	8	21	651	272	1940
15	9	5	27	19	31	7	23	661	279	1941
21	13	9	43	30	84	58	27	688	312	1942
14	3	12	58	38	40	10	30	712	345	1943
10	- 4	14	69	37	18	- 14	32	709	344	1944
13	- 1	15	73	35	27	- 5	32	702	334	1945
4	- 10	14	69	30	25	- 6	31	691	329	1946
3	- 8	11	54	21	20	- 8	28	670	321	1947
3	- 5	8	40	14	20	- 5	25	652	315	1948
4	- 2	6	31	11	26	2	23	651	313	1949
4	- 1	4	22	9	29	7	22	656	318	1950
4	—	4	18	9	46	24	22	665	333	1951
5	1	4	18	10	55	33	22	685	362	1952
7	2	4	21	12	84	60	24	720	408	1953
6	1	5	24	13	58	32	26	759	454	1954
5	—	5	26	14	47	20	27	784	480	1955
6	—	5	27	14	50	22	28	804	501	1956
5	—	6	28	14	49	20	29	822	521	1957
5	- 1	6	28	13	41	12	29	834	538	1958
5	—	5	26	13	49	20	30	853	553	1959
4	- 1	5	25	12	36	6	30	878	566	1960

Vie présumée:

Construction de bâtiments = 40 ans
Travaux de génie = 45 "
Machines et outillage = 30 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 39. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Transportation Equipment, Constant 1957 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	2	- 8	10	407	267	2	- 10	12	360	203
1927	11	1	10	412	264	6	- 6	12	363	195
1928	16	6	10	425	267	14	2	12	371	193
1929	19	8	11	442	274	13	—	13	382	195
1930	4	- 7	11	452	274	8	- 5	13	388	192
1931	1	- 10	11	453	266	6	- 6	13	392	187
1932	—	- 11	11	452	255	5	- 8	13	393	180
1933	2	- 10	11	451	245	4	- 9	13	391	171
1934	6	- 6	11	453	238	3	- 10	13	388	162
1935	6	- 5	11	457	232	7	- 6	13	386	154
1936	2	- 9	11	460	225	6	- 7	13	387	148
1937	13	1	12	466	222	11	- 2	13	391	143
1938	36	24	12	488	234	14	—	13	399	142
1939	7	- 5	12	507	244	10	- 4	14	406	140
1940	8	- 4	13	512	239	16	2	14	408	140
1941	7	- 6	13	515	234	16	3	13	400	142
1942	61	48	13	544	255	30	17	13	387	152
1943	14	—	14	575	279	23	11	12	370	166
1944	3	- 11	14	576	273	8	- 4	12	349	170
1945	4	- 10	14	574	263	16	4	11	334	170
1946	10	- 4	14	575	256	19	8	11	325	176
1947	9	- 5	14	579	251	15	5	10	312	183
1948	8	- 6	14	583	246	15	5	10	302	188
1949	10	- 5	14	587	240	22	12	10	309	196
1950	14	- 1	14	587	237	23	12	11	328	208
1951	27	12	14	584	243	33	22	12	352	225
1952	42	28	14	582	263	30	18	13	382	245
1953	52	37	15	587	296	60	46	14	423	276
1954	23	9	14	587	319	51	35	16	474	316
1955	22	8	14	582	327	38	21	17	512	345
1956	17	3	14	572	333	46	28	18	548	369
1957	18	4	14	556	336	44	25	20	589	396
1958	16	3	13	544	340	36	16	21	619	416
1959	20	6	14	547	345	44	22	22	645	435
1960	15	2	14	557	349	30	8	22	672	450

Assumed Life:

Building construction = 40 years
Engineering construction = 45 "
Machinery and equipment = 30 "
Capital items charged to operating expenses = 5 "

TABLEAU 39. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, matériel de transport, en dollars constants de 1957, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
1	—	1	5	3	5	- 18	23	772	473	1926
2	—	1	6	3	19	- 4	24	781	462	1927
3	2	2	7	4	34	10	24	803	465	1928
3	1	2	9	5	34	9	26	832	474	1929
2	—	2	10	6	14	- 12	26	850	473	1930
1	- 1	2	10	6	9	- 18	26	855	458	1931
1	- 1	2	10	4	7	- 20	26	855	439	1932
1	- 1	2	9	3	6	- 20	26	851	420	1933
—	- 1	1	6	2	9	- 16	25	847	402	1934
1	—	1	5	2	14	- 11	25	849	388	1935
2	1	1	5	3	10	- 15	25	852	376	1936
3	2	1	6	4	27	2	26	863	369	1937
4	2	2	9	6	53	26	27	896	383	1938
3	—	2	12	7	20	- 9	28	925	392	1939
17	13	4	21	14	42	11	30	940	393	1940
21	14	8	38	27	44	10	34	954	403	1941
30	18	12	62	43	122	83	39	993	450	1942
21	4	17	84	54	58	14	43	1,029	499	1943
15	- 5	20	98	54	26	- 20	46	1,024	496	1944
19	- 2	21	106	50	39	- 7	46	1,013	483	1945
6	- 14	20	99	42	35	- 9	45	998	475	1946
4	- 11	16	78	30	28	- 12	40	969	464	1947
4	- 7	11	57	21	28	- 8	36	942	454	1948
5	- 4	9	44	16	37	3	34	940	452	1949
5	- 1	6	32	13	42	10	32	947	459	1950
6	1	5	25	13	66	34	31	961	481	1951
7	1	5	26	14	80	47	32	990	522	1952
10	4	6	30	17	121	88	35	1,040	589	1953
9	2	7	34	19	83	46	37	1,096	655	1954
7	—	7	37	20	67	28	39	1,131	692	1955
8	—	8	39	20	71	31	40	1,160	722	1956
8	—	8	40	20	70	29	41	1,186	752	1957
7	- 1	8	40	19	59	18	42	1,202	775	1958
7	—	8	37	18	71	28	42	1,229	798	1959
6	- 1	7	36	18	52	8	44	1,265	816	1960

Vie présumée:

Construction de bâtiments	= 40 ans
Travaux de génie	= 45 "
Machines et outillage	= 30 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 40. Estimates of Fixed Capital, Flows and Mid-year Stock, Manufacturing, Transportation Equipment, Original Cost Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	1	- 2	3	116	80	2	- 2	4	105	64
1927	5	2	3	119	80	3	- 1	4	106	62
1928	7	4	3	124	83	6	2	4	110	63
1929	8	5	3	132	88	6	2	4	116	65
1930	1	- 2	3	137	89	3	- 1	4	119	66
1931	—	- 3	3	137	87	2	- 2	4	121	64
1932	—	- 3	3	137	84	2	- 2	4	123	63
1933	—	- 3	3	137	81	2	- 2	4	123	60
1934	2	- 1	3	138	79	1	- 3	4	123	58
1935	2	- 1	3	140	78	3	- 1	4	124	56
1936	1	- 3	4	142	76	2	- 2	4	125	54
1937	6	2	4	144	75	5	1	4	128	54
1938	15	11	4	154	82	6	2	4	132	55
1939	3	- 1	4	162	86	5	—	5	137	56
1940	3	- 1	4	165	86	8	3	5	141	58
1941	3	- 1	4	167	84	9	4	5	143	61
1942	27	23	4	182	96	18	13	5	148	70
1943	7	2	5	198	108	13	8	5	153	80
1944	2	- 3	5	200	108	5	—	5	154	84
1945	2	- 3	5	201	104	9	4	5	153	86
1946	5	—	5	203	103	10	5	5	155	90
1947	5	—	5	207	103	9	4	5	154	95
1948	5	—	5	212	104	10	5	5	152	99
1949	6	1	5	216	104	15	10	5	160	106
1950	10	4	6	222	107	18	12	6	174	117
1951	22	16	6	232	118	27	21	6	194	133
1952	37	31	6	252	141	25	18	7	219	152
1953	47	40	7	282	176	50	42	8	255	182
1954	21	13	8	306	203	44	34	10	300	220
1955	20	12	8	319	216	34	23	11	337	249
1956	16	8	8	330	226	43	31	12	373	276
1957	18	10	8	337	236	44	30	14	415	307
1958	16	8	8	344	244	38	23	15	452	333
1959	21	12	9	357	254	45	29	16	487	359
1960	16	7	9	373	264	32	15	17	521	381

Assumed Life:

Building construction = 40 years
Engineering construction = 45 "
Machinery and equipment = 30 "
Capital items charged to operating expenses = 5 "

TABLEAU 40. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, matériel de transport, en coûts initiaux, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
—	—	—	2	1	2	- 5	7	223	145	1926
—	—	—	3	1	8	1	7	228	144	1927
2	1	1	3	2	14	7	7	238	148	1928
1	—	1	4	2	15	7	8	252	155	1929
1	—	1	4	2	6	- 2	8	260	158	1930
1	—	1	4	2	3	- 5	8	263	154	1931
—	- 1	1	4	2	2	- 6	8	264	148	1932
1	—	1	4	1	2	- 6	8	264	143	1933
—	—	—	2	1	4	- 4	8	264	138	1934
—	—	—	2	1	6	- 2	8	266	134	1935
—	—	—	2	1	4	- 4	8	269	131	1936
1	1	—	3	2	12	4	8	275	131	1937
2	1	1	4	3	23	14	9	290	140	1938
1	—	1	5	3	9	- 1	10	304	146	1939
9	7	2	10	7	20	9	11	315	150	1940
12	8	4	19	14	24	11	13	330	160	1941
17	11	6	32	23	63	47	16	362	189	1942
12	3	9	46	30	32	13	19	396	219	1943
9	- 2	11	54	30	15	- 6	21	408	222	1944
11	- 1	12	59	28	22	—	22	413	219	1945
3	- 8	11	56	24	19	- 2	21	414	217	1946
3	- 6	9	44	17	17	- 2	19	405	215	1947
2	- 4	6	32	12	19	2	17	396	214	1948
4	- 1	5	25	9	26	10	16	401	220	1949
4	—	4	20	9	31	16	15	415	233	1950
5	2	3	17	10	54	38	16	443	260	1951
6	2	4	20	11	67	50	17	490	304	1952
9	4	5	24	14	105	85	20	561	372	1953
8	2	6	28	16	72	49	23	635	440	1954
6	—	6	31	17	60	35	25	687	482	1955
8	1	7	34	18	67	40	27	737	520	1956
7	—	7	36	18	70	41	29	788	561	1957
7	—	7	37	18	61	30	31	832	596	1958
8	1	7	36	18	73	41	32	880	632	1959
6	- 1	7	36	18	55	21	34	930	663	1960

Vie présumée:

Construction de bâtiments	= 40 ans
Travaux de génie	= 45 "
Machines et outillage	= 30 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 41. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Non-ferrous Metals and Electrical Apparatus and Supplies, Current Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	3	1	2	62	35	5	—	4	96	37
1927	2	—	2	64	36	4	—	4	91	37
1928	2	—	2	66	36	4	—	4	89	37
1929	4	2	2	72	39	5	1	4	87	37
1930	2	—	2	72	38	8	4	4	80	37
1931	1	- 1	2	69	36	5	1	3	74	37
1932	1	- 1	2	66	33	3	—	3	71	37
1933	—	- 1	2	63	31	1	- 2	3	67	35
1934	1	- 1	2	63	30	2	- 2	3	70	36
1935	1	- 1	2	64	29	2	- 1	3	70	36
1936	1	- 1	2	64	29	3	—	3	71	36
1937	1	- 1	2	68	29	9	6	4	83	43
1938	1	—	2	68	29	8	4	4	89	48
1939	—	- 1	2	67	28	7	3	4	93	52
1940	34	33	2	84	43	18	13	5	108	63
1941	60	57	3	138	92	69	62	7	157	107
1942	83	78	5	216	166	52	42	10	222	165
1943	36	29	7	285	230	40	28	12	264	201
1944	15	7	8	312	252	6	- 7	13	285	212
1945	2	- 6	8	320	255	9	- 3	13	277	198
1946	5	- 3	8	338	264	14	1	13	278	191
1947	12	2	10	383	295	19	4	15	324	216
1948	10	- 1	11	438	333	27	10	17	377	245
1949	15	4	12	466	350	30	11	19	424	272
1950	12	—	12	498	370	24	2	22	481	302
1951	39	24	14	585	430	42	16	26	563	346
1952	57	39	16	666	490	54	27	27	596	367
1953	53	35	18	743	547	62	32	30	655	405
1954	32	13	19	779	569	53	21	32	707	434
1955	45	25	21	832	600	67	31	36	792	479
1956	77	54	23	931	669	82	40	41	911	543
1957	84	58	26	1,043	750	105	57	48	1,047	619
1958	51	23	28	1,123	802	74	21	53	1,168	680
1959	36	7	30	1,195	840	54	- 2	56	1,235	699
1960	32	1	31	1,259	868	69	9	60	1,316	725

Assumed Life:

Building construction = 40 years
Engineering construction = 45 "
Machinery and equipment = 22 "
Capital items charged to operating expenses = 5 "

TABLEAU 41. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, métaux non ferreux et appareils et fournitures électriques, en dollars courants, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
1	—	—	2	1	8	2	6	160	74	1926
1	—	—	2	1	7	—	6	158	74	1927
1	—	1	3	2	6	—	6	158	75	1928
1	—	1	3	2	9	3	6	162	78	1929
1	—	1	4	2	11	4	6	156	78	1930
1	—	1	4	2	6	—	6	147	75	1931
—	—	1	4	2	4	- 2	6	141	72	1932
—	—	1	3	1	2	- 4	5	134	67	1933
—	—	1	3	1	2	- 3	5	136	67	1934
—	—	—	3	1	3	- 2	5	136	66	1935
1	—	—	2	1	4	- 1	5	138	66	1936
2	1	1	3	2	12	6	6	155	75	1937
1	—	1	4	3	10	4	6	161	79	1938
1	—	1	5	3	9	2	7	165	82	1939
13	10	2	12	8	65	56	9	204	115	1940
38	30	8	38	30	167	148	18	332	229	1941
30	16	15	73	55	165	135	30	510	385	1942
20	—	19	97	63	95	57	38	646	494	1943
9	- 13	22	110	57	30	- 12	43	707	521	1944
11	- 10	22	107	43	22	- 20	42	705	496	1945
4	- 13	17	86	30	23	- 15	38	702	486	1946
5	- 8	13	64	22	36	- 1	37	771	533	1947
6	- 3	10	48	18	43	5	38	863	596	1948
7	- 2	8	40	17	52	13	39	930	638	1949
6	- 1	7	37	17	42	1	42	1,017	689	1950
8	1	8	37	19	89	41	48	1,185	795	1951
10	2	8	40	20	121	68	52	1,303	878	1952
11	2	9	44	23	127	70	57	1,442	976	1953
11	1	9	47	25	96	35	61	1,533	1,028	1954
12	2	10	53	28	125	58	67	1,678	1,107	1955
15	3	12	61	32	174	97	77	1,904	1,244	1956
18	4	14	70	37	206	119	87	2,160	1,406	1957
14	- 1	15	75	39	139	43	96	2,366	1,521	1958
12	- 3	15	75	38	103	2	101	2,505	1,577	1959
15	- 1	15	77	37	116	9	106	2,652	1,629	1960

Vie présumée:

Construction de bâtiments = 40 ans
Travaux de génie = 45 "
Machines et outillage = 22 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 42. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Non-ferrous Metals and Electrical Apparatus and Supplies, Constant 1949 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	4	2	2	101	57	8	1	7	153	60
1927	3	—	3	104	58	6	—	7	148	60
1928	2	—	3	107	58	6	—	7	144	60
1929	5	3	3	110	60	8	2	6	141	61
1930	3	—	3	114	61	13	7	6	141	65
1931	2	- 2	3	115	60	9	2	6	140	69
1932	1	- 2	3	116	59	6	—	6	137	71
1933	1	- 2	3	116	57	2	- 4	6	132	68
1934	1	- 2	3	116	55	3	- 3	6	126	65
1935	2	- 2	3	116	53	3	- 2	6	121	62
1936	1	- 2	3	117	52	5	—	5	119	61
1937	1	- 2	3	117	50	14	8	6	124	65
1938	2	- 1	3	117	49	12	6	6	132	72
1939	1	- 2	3	117	48	11	4	6	138	77
1940	58	54	4	144	74	25	18	7	151	88
1941	95	90	5	218	146	89	79	9	202	137
1942	125	117	8	324	249	64	51	12	272	202
1943	52	42	10	408	328	48	33	15	322	245
1944	21	10	11	439	354	8	- 8	16	345	257
1945	2	- 9	11	446	355	12	- 4	16	352	251
1946	7	- 4	11	445	348	18	2	16	363	250
1947	14	3	11	451	347	22	5	17	381	253
1948	10	- 1	11	458	348	28	10	18	401	261
1949	15	4	12	466	350	30	11	19	424	272
1950	11	—	12	474	351	22	2	20	444	278
1951	32	20	12	491	361	34	13	21	465	286
1952	45	32	13	526	387	45	22	22	494	304
1953	41	27	14	566	417	50	26	24	530	328
1954	24	10	15	595	435	43	17	26	569	349
1955	34	18	15	622	449	52	24	28	612	370
1956	55	38	16	665	477	60	30	30	666	396
1957	58	40	18	718	517	73	40	33	729	431
1958	35	16	19	762	544	50	14	36	787	458
1959	24	4	20	789	554	36	- 1	37	820	465
1960	21	1	20	808	557	44	6	38	848	467

Assumed Life:

Building construction = 40 years
Engineering construction = 45 "
Machinery and equipment = 22 "
Capital items charged to operating expenses = 5 "

TABLEAU 42. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, métaux non ferreux et appareils et fournitures électriques, en dollars contants de 1949, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
1	1	1	4	2	13	3	10	258	119	1926
1	—	1	4	2	11	—	10	257	121	1927
1	—	1	5	3	10	—	10	256	121	1928
1	—	1	6	3	15	4	10	257	123	1929
2	1	1	7	4	18	8	11	261	130	1930
1	—	2	8	4	12	1	11	264	134	1931
1	- 1	2	7	4	8	- 3	10	260	133	1932
1	- 1	1	7	3	3	- 7	10	254	128	1933
—	- 1	1	6	2	4	- 5	10	247	122	1934
1	—	1	5	2	6	- 4	9	242	117	1935
1	—	1	4	2	7	- 2	9	239	114	1936
2	2	1	5	3	18	8	9	245	118	1937
2	1	1	6	4	16	6	10	255	125	1938
2	—	2	7	4	13	2	11	262	129	1939
18	15	3	16	12	101	87	14	311	174	1940
48	38	10	49	38	232	208	24	468	321	1941
37	19	18	90	67	225	187	38	686	519	1942
24	—	24	118	77	124	75	48	847	650	1943
11	- 16	27	133	69	40	- 14	53	918	681	1944
14	- 13	27	136	55	28	- 26	54	934	661	1945
5	- 17	22	113	40	30	- 20	50	921	637	1946
6	- 9	15	76	26	42	- 1	44	907	627	1947
7	- 3	10	51	20	45	6	40	911	629	1948
7	- 2	8	40	17	52	13	39	930	638	1949
6	- 1	7	34	16	39	1	39	951	645	1950
7	1	6	31	16	74	34	40	987	663	1951
8	2	7	33	17	98	56	42	1,053	708	1952
9	2	7	36	19	100	55	45	1,132	763	1953
9	1	8	38	20	76	28	48	1,202	805	1954
10	2	8	41	22	95	44	51	1,275	840	1955
11	2	9	44	23	126	70	56	1,375	897	1956
12	2	10	48	26	143	82	61	1,496	973	1957
9	- 1	10	50	26	94	29	65	1,599	1,029	1958
8	- 2	10	50	25	68	1	67	1,659	1,044	1959
9	—	10	50	24	74	6	69	1,706	1,048	1960

Vie présumée:

Construction de bâtiments	= 40 ans
Travaux de génie	= 45 "
Machines et outillage	= 22 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 43. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Non-ferrous Metals and Electrical Apparatus and Supplies, Constant 1957 Dollars, 1926 - 1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	6	2	4	147	83	11	1	10	220	86
1927	4	1	4	152	85	9	- 1	10	213	86
1928	4	—	4	155	85	9	—	9	207	86
1929	8	4	4	160	87	11	2	9	203	87
1930	4	—	4	165	88	19	10	9	202	93
1931	2	- 2	4	167	88	13	4	9	202	100
1932	2	- 3	4	168	86	9	—	9	197	101
1933	1	- 3	4	168	83	3	- 6	9	189	98
1934	2	- 3	4	168	80	4	- 4	8	181	93
1935	2	- 2	4	169	78	4	- 3	8	174	89
1936	2	- 2	4	169	75	7	- 1	8	171	87
1937	2	- 2	4	170	73	20	12	8	178	93
1938	3	- 1	4	170	71	17	8	9	190	103
1939	1	- 3	4	169	69	15	6	9	198	110
1940	84	79	5	209	107	36	26	10	216	126
1941	138	130	8	316	212	127	114	13	290	196
1942	181	170	12	471	362	92	74	18	391	290
1943	75	60	15	592	477	69	48	21	462	351
1944	30	14	16	638	514	11	- 12	22	496	370
1945	3	- 13	16	647	515	17	- 6	23	506	361
1946	10	- 6	16	647	505	26	3	24	521	359
1947	20	4	16	655	505	32	7	25	546	364
1948	15	- 2	16	665	506	41	15	26	576	375
1949	22	5	17	676	508	44	16	28	609	390
1950	17	—	17	688	510	32	3	29	637	400
1951	47	30	18	714	524	49	19	30	667	410
1952	65	46	19	764	562	64	32	32	709	436
1953	59	39	20	822	605	72	37	35	761	471
1954	36	14	21	865	631	62	24	37	817	502
1955	49	27	22	904	652	74	34	40	880	531
1956	80	56	24	965	693	86	42	44	956	569
1957	84	58	26	1,043	750	105	57	48	1,047	619
1958	50	23	27	1,107	790	72	20	51	1,130	658
1959	35	6	28	1,145	805	52	- 2	54	1,178	667
1960	30	1	29	1,174	809	64	8	55	1,218	670

Assumed Life:

Building construction = 40 years
Engineering construction = 45 "
Machinery and equipment = 22 "
Capital items charged to operating expenses = 5 "

TABLEAU 43. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, métaux non ferreux et appareils et fournitures électriques, en dollars constants de 1957, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
2	1	1	5	2	19	4	15	372	172	1926
2	1	1	6	3	16	1	15	370	174	1927
2	1	1	7	4	15	—	15	369	175	1928
2	—	2	8	5	21	6	15	371	178	1929
3	1	2	10	6	26	11	15	377	187	1930
2	- 1	2	11	6	17	1	16	380	193	1931
1	- 1	2	11	5	11	- 4	15	375	192	1932
1	- 1	2	10	4	5	- 10	15	366	185	1933
1	- 1	2	8	3	6	- 8	14	357	176	1934
1	—	1	7	3	8	- 6	13	350	170	1935
1	—	1	6	3	10	- 3	13	346	165	1936
3	2	1	7	4	25	12	14	354	170	1937
3	1	2	9	6	23	8	14	368	180	1938
3	—	2	11	6	19	4	15	378	186	1939
26	21	5	24	17	146	126	20	449	251	1940
69	55	14	70	55	335	300	35	676	464	1941
53	27	26	129	96	326	271	55	990	749	1942
34	—	34	169	110	178	109	70	1,224	939	1943
16	- 22	38	192	99	57	- 20	77	1,325	983	1944
20	- 19	39	196	79	40	- 38	78	1,348	954	1945
7	- 25	32	162	57	44	- 28	72	1,330	921	1946
8	- 14	22	108	38	61	- 2	63	1,310	906	1947
10	- 5	15	74	28	65	8	57	1,315	909	1948
10	- 2	12	58	25	75	19	56	1,343	922	1949
8	- 2	10	49	23	57	1	56	1,374	932	1950
10	1	9	44	23	106	50	57	1,425	958	1951
12	2	10	47	24	142	81	61	1,521	1,023	1952
13	3	10	51	27	144	79	65	1,634	1,103	1953
12	2	11	54	29	110	40	69	1,736	1,162	1954
14	2	12	58	31	137	63	74	1,842	1,214	1955
16	3	13	64	34	181	101	80	1,985	1,296	1956
18	4	14	70	37	206	119	87	2,160	1,406	1957
13	- 1	14	72	38	135	42	93	2,309	1,486	1958
12	- 3	14	72	36	98	2	96	2,395	1,508	1959
14	- 1	14	72	34	107	8	99	2,463	1,513	1960

Vie présumée:

Construction de bâtiments	= 40 ans
Travaux de génie	= 45 "
Machines et outillage	= 22 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 44. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Non-ferrous Metals and Electrical Apparatus and Supplies, Original Cost Dollars, 1926 - 1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	3	2	1	40	25	5	2	3	69	33
1927	2	1	1	42	26	4	1	3	69	34
1928	1	—	1	43	27	4	1	3	70	35
1929	3	2	1	46	28	5	2	3	71	36
1930	2	1	1	48	30	7	4	3	73	39
1931	1	—	1	49	30	4	1	3	75	42
1932	—	- 1	1	50	30	3	—	3	75	42
1933	—	- 1	1	50	29	1	- 2	3	74	41
1934	—	- 1	1	50	28	1	- 2	3	73	39
1935	1	—	1	51	28	2	- 1	3	72	37
1936	—	- 1	1	52	27	3	—	3	72	36
1937	1	—	1	52	26	10	6	4	76	39
1938	1	—	1	53	26	8	4	4	83	44
1939	—	- 1	1	53	26	7	3	4	88	48
1940	34	32	2	70	41	18	14	4	97	56
1941	60	57	3	116	86	69	63	6	136	94
1942	83	78	5	186	154	52	43	9	192	147
1943	36	30	6	245	208	40	29	11	233	183
1944	15	8	7	269	227	7	- 5	12	253	195
1945	2	- 5	7	275	228	9	- 3	12	259	191
1946	5	- 2	7	277	225	14	2	12	268	191
1947	12	5	7	284	227	19	6	13	282	195
1948	9	2	7	293	230	27	13	14	303	205
1949	16	8	8	304	236	30	15	15	327	219
1950	12	4	8	316	241	24	8	16	350	231
1951	38	30	8	339	259	41	24	17	378	247
1952	57	47	10	386	298	54	35	19	420	277
1953	53	42	11	440	342	61	40	21	472	314
1954	32	20	12	481	374	53	29	24	526	349
1955	46	33	13	519	400	66	40	26	584	384
1956	77	63	14	579	448	82	52	30	657	430
1957	83	67	16	659	513	105	71	34	748	492
1958	51	33	18	725	563	74	36	38	836	545
1959	36	17	19	767	588	55	14	41	894	570
1960	33	13	20	799	603	69	26	43	947	590

Assumed Life:

Building construction = 40 years
Engineering construction = 45 "
Machinery and equipment = 22 "
Capital items charged to operating expenses = 5 "

TABLEAU 44. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, métaux non ferreux et appareils et fournitures électriques, en coûts initiaux, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
—	—	—	2	1	8	4	4	110	59	1926
—	—	—	2	1	7	2	5	114	62	1927
1	—	1	3	2	7	2	5	116	63	1928
1	—	1	3	2	9	4	5	120	66	1929
1	—	1	4	2	10	5	5	125	71	1930
1	—	1	5	2	7	1	6	129	74	1931
1	—	1	4	2	5	- 1	6	130	74	1932
1	—	1	4	2	2	- 4	6	128	71	1933
1	—	1	3	1	2	- 3	5	126	68	1934
—	—	—	2	1	3	- 2	5	125	66	1935
—	—	—	2	1	4	- 1	5	125	64	1936
1	1	—	3	2	11	6	5	131	67	1937
1	—	1	4	2	10	4	6	139	73	1938
1	—	1	5	3	8	2	6	145	76	1939
12	10	2	11	8	64	56	8	178	106	1940
37	30	7	36	29	166	150	16	288	209	1941
30	16	14	69	52	165	138	27	447	353	1942
19	1	18	92	61	95	60	35	570	452	1943
9	- 12	21	105	56	30	- 9	39	627	478	1944
11	- 11	22	108	44	22	- 18	40	642	464	1945
4	- 14	18	91	32	23	- 14	37	636	448	1946
5	- 7	12	61	21	36	4	32	628	443	1947
6	- 2	8	42	16	42	13	29	638	451	1948
7	—	7	34	15	52	23	29	665	470	1949
6	—	6	30	15	42	12	30	696	487	1950
8	2	6	30	16	89	57	32	748	522	1951
10	3	7	35	19	121	85	36	841	593	1952
11	3	8	40	22	126	86	40	952	679	1953
11	2	9	45	25	96	51	45	1,051	748	1954
12	2	10	50	27	124	75	49	1,152	811	1955
15	4	11	56	30	173	118	55	1,292	908	1956
18	5	13	63	34	206	143	63	1,470	1,039	1957
14	—	14	68	37	139	69	70	1,628	1,145	1958
12	- 2	14	70	36	103	29	74	1,730	1,194	1959
14	—	14	72	35	116	39	77	1,818	1,228	1960

Vie présumée:

Construction de bâtiments = 40 ans
Travaux de génie = 45 "
Machines et outillage = 22 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 45. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Non-metalic Minerals and Products of Petroleum and Coal, Current Dollars, 1926 - 1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	7	3	3	133	82	2	- 2	4	96	43
1927	6	2	4	135	83	3	—	4	94	41
1928	32	28	4	155	98	3	—	4	94	41
1929	33	28.	5	194	130	4	—	4	92	41
1930	27	22	6	215	149	4	—	3	82	38
1931	8	3	6	218	151	4	1	3	75	36
1932	2	- 4	6	213	144	2	- 1	3	73	35
1933	2	- 3	5	209	136	1	- 1	3	70	33
1934	3	- 2	6	212	134	2	- 1	3	74	35
1935	4	- 2	6	217	133	1	- 2	3	76	35
1936	4	- 2	6	224	134	1	- 2	3	77	34
1937	7	1	6	246	144	2	- 1	3	84	37
1938	5	- 1	6	244	141	2	- 1	3	81	36
1939	4	- 2	6	246	139	2	- 1	3	77	35
1940	6	—	7	254	141	3	—	3	80	36
1941	5	- 2	7	279	153	3	—	3	86	40
1942	4	- 4	8	295	160	3	—	3	88	41
1943	4	- 4	8	306	163	3	—	3	88	42
1944	4	- 4	8	307	162	2	- 1	3	87	41
1945	8	—	8	308	161	4	1	3	83	40
1946	9	—	8	327	170	9	6	3	85	42
1947	35	24	10	394	210	21	17	4	108	58
1948	40	28	12	477	265	30	25	6	145	86
1949	25	11	14	524	298	22	16	7	175	112
1950	19	4	15	570	324	30	23	8	206	142
1951	33	16	17	667	380	56	46	10	271	194
1952	52	33	19	732	425	60	47	12	324	240
1953	73	52	21	804	481	41	27	14	378	282
1954	99	77	23	873	542	38	22	16	413	308
1955	123	96	26	1,007	649	34	16	18	459	341
1956	135	105	31	1,185	787	78	57	20	534	398
1957	143	108	35	1,347	914	66	42	24	624	468
1958	150	112	39	1,495	1,032	33	7	26	688	509
1959	135	92	44	1,680	1,171	60	32	28	740	535
1960	88	41	47	1,829	1,269	43	12	31	812	574

Assumed Life:

Building construction = 35 years
Engineering construction = 40 "
Machinery and equipment = 26 "
Capital items charged to operating expenses = 5 "

TABLEAU 45. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, minéraux non métalliques et produits du pétrole et du charbon, en dollars courants, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
1	—	1	6	3	10	1	8	234	128	1926
1	—	1	7	3	11	2	9	236	126	1927
1	—	1	6	3	36	28	9	255	142	1928
1	—	1	6	3	38	28	10	291	174	1929
1	—	1	5	3	32	22	10	302	190	1930
1	—	1	5	2	12	3	10	298	190	1931
—	—	1	4	2	4	- 5	9	290	181	1932
—	—	1	4	2	4	- 5	9	282	171	1933
—	—	1	3	1	5	- 4	9	290	170	1934
1	—	1	3	1	6	- 4	9	296	169	1935
—	—	—	3	1	5	- 4	9	304	170	1936
1	—	1	3	2	9	- 1	10	333	183	1937
1	—	1	3	2	8	- 2	10	328	178	1938
1	—	1	3	2	7	- 3	10	326	176	1939
5	4	1	5	4	14	3	11	339	181	1940
5	3	2	10	7	14	1	13	375	200	1941
5	2	3	15	10	12	- 2	14	399	211	1942
4	—	4	19	12	11	- 4	15	413	216	1943
4	—	4	23	12	10	- 6	16	417	214	1944
6	2	5	24	12	18	3	16	415	212	1945
3	- 2	4	22	11	20	4	16	434	223	1946
4	—	5	23	11	60	41	19	524	279	1947
5	—	5	25	12	76	53	23	647	363	1948
5	- 1	6	27	13	52	27	26	726	423	1949
6	—	6	28	14	55	27	28	805	480	1950
8	2	6	32	17	98	64	34	969	590	1951
9	2	7	35	18	120	82	38	1,091	683	1952
8	—	7	37	20	121	79	43	1,218	783	1953
7	—	8	38	20	144	98	46	1,324	870	1954
7	- 1	8	40	20	164	112	52	1,506	1,009	1955
12	3	9	44	22	225	165	60	1,763	1,207	1956
11	1	10	48	25	219	151	68	2,018	1,408	1957
7	- 2	10	49	25	191	116	75	2,231	1,566	1958
11	1	10	49	25	206	124	82	2,470	1,731	1959
9	- 2	10	52	25	140	51	89	2,693	1,868	1960

Vie présumée:

Construction de bâtiments	= 35 ans
Travaux de génie	= 40 "
Machines et outillage	= 26 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 46. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Non-metallic Minerals and Products of Petroleum and Coal, Constant 1949 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	11	6	6	227	140	3	- 3	6	153	68
1927	11	4	6	238	145	5	- 1	6	153	67
1928	56	49	7	271	172	5	- 1	6	151	66
1929	55	47	8	326	220	6	1	6	148	66
1930	48	38	10	377	262	6	1	6	144	67
1931	15	5	10	408	284	7	1	5	142	68
1932	4	- 7	11	417	283	3	- 2	5	139	68
1933	4	- 7	11	421	276	2	- 3	5	136	65
1934	7	- 4	11	426	270	3	- 2	5	134	63
1935	7	- 4	11	432	266	2	- 3	5	132	60
1936	7	- 4	11	437	262	2	- 3	5	129	57
1937	13	1	12	443	260	3	- 2	5	125	55
1938	10	- 2	12	451	260	3	- 2	5	120	53
1939	8	- 4	12	455	257	3	- 1	4	115	52
1940	12	—	12	460	255	4	—	4	111	51
1941	9	- 3	12	463	254	4	—	4	110	51
1942	6	- 6	12	461	249	4	—	4	108	51
1943	6	- 6	12	456	243	4	—	4	106	50
1944	5	- 6	12	449	237	3	- 1	4	105	50
1945	11	—	12	446	233	6	2	4	106	50
1946	12	—	12	447	233	12	7	4	111	55
1947	41	29	12	464	248	25	20	5	126	68
1948	42	29	13	498	277	32	26	6	154	91
1949	25	11	14	524	298	22	16	7	175	112
1950	18	4	14	537	305	28	21	7	190	131
1951	27	13	14	551	314	46	38	9	223	160
1952	41	26	15	575	333	49	39	10	268	198
1953	55	40	16	612	366	33	22	12	306	229
1954	76	59	17	669	415	30	18	13	332	248
1955	91	72	19	746	480	26	13	14	355	263
1956	95	74	22	832	553	57	42	15	390	290
1957	98	74	24	923	627	46	29	17	434	326
1958	102	76	26	1,016	702	22	4	18	464	343
1959	89	60	29	1,104	770	40	21	19	492	356
1960	56	26	30	1,172	813	28	8	20	523	370

Assumed Life:

Building construction = 35 years
Engineering construction = 40 "
Machinery and equipment = 26 "
Capital items charged to operating expenses = 5 "

TABLEAU 46. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, minéraux non métalliques et produits du pétrole et du charbon, en dollars constants de 1949, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
2	—	2	9	5	16	2	14	389	213	1926
2	—	2	11	5	18	4	14	402	217	1927
2	—	2	11	5	64	49	15	433	243	1928
2	—	2	9	5	64	48	16	483	291	1929
1	—	2	9	5	56	39	17	531	334	1930
2	—	2	9	4	24	6	18	560	356	1931
1	- 1	2	9	4	8	- 10	18	565	354	1932
1	- 1	1	7	3	7	- 10	18	565	344	1933
1	—	1	6	2	10	- 7	18	566	336	1934
1	—	1	5	2	11	- 7	17	569	328	1935
1	—	1	4	2	10	- 7	17	570	322	1936
1	—	1	4	2	16	- 1	17	572	318	1937
1	—	1	4	2	14	- 4	17	575	315	1938
1	—	1	4	2	12	- 5	17	574	311	1939
7	5	2	7	5	22	4	18	578	311	1940
6	4	3	13	9	19	1	19	586	314	1941
6	3	4	19	13	16	- 3	20	588	312	1942
5	—	5	23	14	14	- 6	21	586	308	1943
5	—	6	27	14	13	- 8	21	582	301	1944
8	2	6	30	15	25	3	22	582	298	1945
4	- 2	6	29	14	27	5	22	587	302	1946
5	—	5	27	13	71	48	22	618	329	1947
6	—	5	27	13	80	56	24	679	382	1948
5	- 1	6	27	13	52	27	26	726	423	1949
5	—	5	26	13	51	25	26	753	449	1950
7	2	5	26	14	81	52	28	800	487	1951
7	1	6	29	15	97	66	31	872	547	1952
6	—	6	30	16	95	61	34	948	611	1953
6	—	6	31	16	112	76	36	1,032	679	1954
5	- 1	6	31	15	123	83	39	1,131	759	1955
9	2	6	32	16	161	118	43	1,254	859	1956
8	1	7	33	17	151	104	47	1,391	970	1957
5	- 2	6	33	17	130	79	51	1,512	1,061	1958
7	—	6	33	16	136	82	54	1,629	1,142	1959
6	- 1	7	34	16	90	32	57	1,728	1,199	1960

Vie présumée:

Construction de bâtiments = 35 ans
Travaux de génie = 40 "
Machines et outillage = 26 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 47. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Non-metallic Minerals and Products of Petroleum and Coal, Constant 1957 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	17	8	9	331	204	5	- 4	8	220	98
1927	15	6	9	346	212	8	- 1	8	220	96
1928	82	72	10	395	251	7	- 1	8	217	95
1929	80	68	12	476	321	9	1	8	213	95
1930	70	56	14	550	383	9	1	8	208	96
1931	22	7	15	596	414	10	2	8	204	98
1932	6	- 10	16	609	413	5	- 3	8	200	97
1933	6	- 10	16	614	403	4	- 4	8	196	94
1934	10	- 6	16	621	395	4	- 4	7	193	90
1935	10	- 6	16	630	388	4	- 4	7	190	86
1936	10	- 6	17	637	382	3	- 4	7	185	82
1937	18	2	17	647	380	4	- 3	7	179	79
1938	14	- 3	17	658	380	4	- 2	7	172	76
1939	12	- 5	17	664	375	5	- 1	6	165	74
1940	17	—	17	671	373	5	- 1	6	159	73
1941	13	- 5	18	675	370	6	—	6	158	73
1942	9	- 8	17	673	363	6	—	6	156	73
1943	8	- 9	17	665	355	6	—	6	153	72
1944	7	- 10	17	655	345	4	- 2	6	151	72
1945	16	—	17	650	340	8	2	6	152	72
1946	17	—	17	652	340	16	10	6	159	78
1947	60	42	18	678	362	35	28	7	182	98
1948	62	43	19	727	404	46	38	8	222	131
1949	36	17	20	764	434	32	23	10	251	161
1950	26	6	20	784	445	40	30	10	273	188
1951	40	19	21	804	458	67	54	12	321	230
1952	60	38	22	839	486	71	56	15	386	285
1953	81	58	23	893	534	48	31	17	439	328
1954	111	86	25	976	606	44	25	18	477	356
1955	133	104	28	1,088	701	38	18	20	509	378
1956	139	108	32	1,215	807	82	60	22	560	417
1957	143	108	35	1,347	915	66	42	24	624	468
1958	149	111	38	1,483	1,024	32	6	26	666	492
1959	130	88	42	1,611	1,123	58	30	27	706	511
1960	82	38	44	1,710	1,186	40	11	29	751	531

Assumed Life:

Building construction = 35 years
Engineering construction = 40 "
Machinery and equipment = 26 "
Capital items charged to operating expenses = 5 "

TABLEAU 47. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, minéraux non métalliques et produits du pétrole et du charbon, en dollars constants de 1957, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
2	—	3	14	7	24	4	20	564	310	1926
3	—	3	16	7	26	6	21	582	315	1927
3	—	3	15	7	92	71	22	627	353	1928
3	—	3	13	7	93	70	23	701	423	1929
2	- 1	3	13	7	81	56	25	771	486	1930
2	—	3	14	6	34	8	26	813	518	1931
1	1	2	12	5	12	- 11	26	822	515	1932
1	- 1	2	10	4	11	- 15	26	821	501	1933
1	- 1	2	8	4	15	- 10	25	823	488	1934
2	—	1	7	3	15	- 10	25	827	478	1935
1	—	1	6	3	14	- 10	25	828	468	1936
1	—	1	6	3	24	- 1	25	832	462	1937
1	—	1	6	3	20	- 5	25	836	459	1938
1	—	1	6	3	18	- 7	25	835	453	1939
10	8	2	11	7	32	6	26	841	453	1940
9	6	4	19	14	28	1	27	852	456	1941
9	4	5	27	18	24	- 5	29	856	454	1942
7	—	7	34	20	21	- 9	30	852	447	1943
7	- 1	8	39	20	19	- 12	31	846	437	1944
12	3	9	43	21	36	5	31	845	434	1945
5	- 3	8	42	21	39	8	31	853	440	1946
7	—	8	39	19	102	70	32	898	479	1947
8	—	8	39	19	116	81	35	987	554	1948
7	- 1	8	39	19	76	39	37	1,054	614	1949
8	—	8	37	19	74	36	38	1,094	651	1950
10	2	8	38	20	116	76	41	1,162	707	1951
10	2	8	42	22	141	96	45	1,266	793	1952
9	—	9	43	23	137	89	49	1,375	885	1953
8	—	9	44	23	163	110	52	1,497	985	1954
8	- 1	9	45	22	178	121	57	1,642	1,101	1955
12	3	9	46	23	233	171	62	1,820	1,247	1956
11	1	10	48	25	219	151	68	2,018	1,408	1957
7	- 2	9	47	24	188	115	74	2,195	1,540	1958
10	1	9	47	24	197	119	78	2,365	1,657	1959
8	- 1	10	48	23	130	47	83	2,509	1,740	1960

Vie présumée:

Construction de bâtiments = 35 ans
Travaux de génie = 40 "
Machines et outillage = 26 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 48. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Non-metallic Minerals and Products of Petroleum and Coal, Original Cost Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	7	4	3	100	68	2	- 1	3	66	35
1927	6	3	3	106	72	4	1	3	68	35
1928	32	29	3	125	88	4	1	3	69	36
1929	33	29	4	157	116	4	1	3	69	37
1930	27	22	5	187	142	4	1	3	70	38
1931	8	3	5	205	154	4	1	3	71	39
1932	2	- 3	5	210	154	2	- 1	3	71	39
1933	2	- 4	6	212	151	2	- 1	3	70	38
1934	4	- 2	6	214	148	2	- 1	3	70	36
1935	4	- 2	6	217	146	2	- 1	3	70	35
1936	4	- 2	6	220	144	2	- 1	3	69	34
1937	7	1	6	225	143	2	- 1	3	69	33
1938	5	- 1	6	230	143	2	- 1	3	68	32
1939	4	- 2	6	233	142	3	—	3	67	32
1940	6	--	6	237	142	3	—	3	67	31
1941	5	- 1	6	241	141	4	1	3	68	32
1942	4	- 2	6	243	140	4	1	3	69	32
1943	3	- 3	6	243	137	4	1	3	69	33
1944	3	- 3	6	243	134	3	—	3	69	33
1945	7	1	6	244	134	5	2	3	70	34
1946	8	2	6	249	136	9	6	3	73	38
1947	35	28	7	268	150	21	18	3	87	50
1948	41	33	8	302	181	30	26	4	112	72
1949	25	16	9	332	205	22	17	5	134	93
1950	19	10	9	351	218	31	25	6	154	114
1951	34	24	10	373	235	57	49	8	194	151
1952	53	42	11	412	267	60	50	10	250	200
1953	72	60	12	469	318	42	30	12	298	240
1954	99	85	14	551	391	38	25	13	334	267
1955	123	106	17	659	486	34	20	14	367	290
1956	135	115	20	784	597	78	62	16	419	330
1957	143	119	24	920	714	66	47	19	487	385
1958	151	123	28	1,061	834	33	13	20	534	415
1959	135	104	31	1,199	948	60	38	22	579	440
1960	88	54	34	1,307	1,027	43	19	24	629	468

Assumed Life:

Building construction = 35 years
Engineering construction = 40 "
Machinery and equipment = 26 "
Capital items charged to operating expenses = 5 "

TABLEAU 48. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, minéraux non métalliques et produits du pétrole et du charbon, en coûts initiaux, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
1	—	1	6	3	9	3	6	173	106	1926
1	—	1	7	3	11	4	7	181	110	1927
1	—	1	7	3	36	29	7	201	127	1928
1	—	1	6	3	38	30	8	232	156	1929
1	—	1	6	3	32	23	9	263	183	1930
1	—	1	6	3	12	3	9	281	196	1931
—	- 1	1	5	2	4	- 5	9	286	195	1932
1	—	1	4	2	4	- 5	9	286	190	1933
1	—	1	3	1	5	- 4	9	288	186	1934
—	—	—	3	1	6	- 3	9	290	182	1935
—	—	—	2	1	5	- 4	9	292	179	1936
—	—	—	2	1	9	—	9	296	177	1937
—	—	—	3	1	8	- 1	9	300	177	1938
1	—	1	3	1	7	- 2	9	303	175	1939
5	4	1	5	3	14	4	10	309	176	1940
5	3	2	9	7	14	3	11	318	180	1941
5	2	3	14	10	13	1	12	326	182	1942
4	—	4	18	11	10	- 2	12	330	181	1943
4	—	4	21	11	10	- 3	13	333	179	1944
7	2	5	24	12	19	5	14	338	180	1945
3	- 2	5	24	12	20	6	14	346	185	1946
4	—	4	22	11	60	45	15	376	211	1947
5	1	4	22	11	76	60	16	436	263	1948
5	—	5	23	12	52	34	18	488	310	1949
6	1	5	23	12	55	35	20	528	345	1950
8	3	5	26	14	97	75	22	593	400	1951
8	2	6	31	17	120	94	26	693	485	1952
8	1	7	34	19	121	91	30	801	577	1953
7	—	7	36	19	144	110	34	922	678	1954
7	- 1	8	38	19	164	125	39	1,063	795	1955
12	4	8	40	20	224	180	44	1,243	947	1956
11	2	9	43	23	219	168	51	1,450	1,122	1957
7	- 2	9	44	24	191	134	57	1,639	1,272	1958
11	2	9	46	24	205	143	62	1,824	1,411	1959
9	- 1	10	48	24	140	72	68	1,984	1,519	1960

Vie présumée:

Construction de bâtiments = 35 ans
Travaux de génie = 40 "
Machines et outillage = 26 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 49. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Chemicals, Current Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	4	1	4	179	134	1	- 4	5	118	56
1927	2	- 1	4	182	134	4	- 2	5	117	52
1928	1	- 2	4	185	133	3	- 3	5	120	50
1929	11	7	4	200	141	5	—	6	122	48
1930	3	- 1	4	200	140	4	- 2	5	115	44
1931	2	- 2	4	190	130	2	- 3	5	108	39
1932	1	- 3	4	182	122	1	- 4	5	104	35
1933	1	- 2	3	176	114	3	- 2	4	97	32
1934	2	- 1	4	178	113	2	- 3	4	97	32
1935	1	- 2	4	180	112	2	- 2	4	89	31
1936	—	- 3	4	182	110	2	- 2	4	83	30
1937	6	2	4	197	116	2	- 2	4	86	32
1938	3	- 1	4	200	116	3	—	4	80	31
1939	1	- 3	4	200	113	2	- 1	3	72	31
1940	2	- 2	4	204	112	4	1	3	70	33
1941	3	- 1	4	223	119	9	6	3	74	39
1942	5	1	5	239	126	5	1	4	78	44
1943	2	- 3	5	255	131	3	—	4	80	45
1944	1	- 4	5	261	130	2	- 2	4	81	44
1945	4	- 1	5	266	129	4	—	4	77	41
1946	12	6	6	289	138	8	4	4	78	42
1947	14	8	7	338	163	19	15	4	100	57
1948	15	7	8	396	192	27	21	6	132	81
1949	12	4	8	427	206	26	18	7	164	107
1950	7	- 2	9	459	218	19	10	9	196	131
1951	19	9	10	532	251	38	28	11	241	166
1952	61	49	12	603	296	80	67	13	291	212
1953	32	19	13	670	341	90	73	17	377	288
1954	15	2	14	689	350	25	5	20	433	328
1955	22	8	14	721	363	35	13	22	476	351
1956	58	42	16	792	406	87	62	25	557	408
1957	66	48	17	876	466	84	54	30	670	489
1958	43	25	18	937	509	74	39	34	757	545
1959	24	5	20	993	540	56	19	38	830	583
1960	36	16	20	1,038	565	74	33	41	900	616

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 22 "
Capital items charged to operating expenses = 5 "

TABLEAU 49. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, produits chimiques, en dollars courants, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
—	—	—	2	1	6	- 3	9	298	190	1926
1	—	—	2	1	6	- 3	9	302	187	1927
1	—	—	2	1	4	- 5	10	307	184	1928
1	—	—	2	1	17	7	10	324	191	1929
1	—	—	3	2	7	- 2	10	317	185	1930
1	—	1	3	2	5	- 5	9	301	170	1931
—	—	1	3	1	2	- 7	9	289	158	1932
—	—	—	2	1	4	- 4	8	276	147	1933
—	—	—	2	1	4	- 4	8	277	146	1934
1	—	—	2	1	4	- 4	8	272	144	1935
—	—	—	2	1	3	- 5	8	268	141	1936
1	—	—	2	1	8	—	8	286	150	1937
1	—	—	3	1	7	- 1	8	282	148	1938
1	—	1	3	2	4	- 4	8	275	145	1939
4	3	1	5	3	11	2	8	279	148	1940
7	5	2	10	8	19	9	10	306	166	1941
5	2	3	16	11	15	3	11	333	181	1942
3	- 1	4	19	12	8	- 4	12	354	187	1943
3	- 1	4	22	10	6	- 7	13	363	184	1944
4	—	4	22	10	12	- 1	13	365	179	1945
2	- 2	4	19	9	22	9	13	386	189	1946
4	—	4	18	9	37	23	15	456	229	1947
4	1	4	20	10	46	29	18	547	283	1948
4	—	4	22	11	42	22	20	613	324	1949
4	- 1	5	23	12	30	8	22	678	361	1950
6	1	5	26	13	64	38	27	799	430	1951
11	5	6	30	16	152	121	31	924	524	1952
12	4	7	36	21	134	96	38	1,084	650	1953
6	- 2	8	40	22	45	4	41	1,161	701	1954
6	- 2	8	42	21	63	19	44	1,239	736	1955
12	2	10	48	22	157	106	50	1,397	836	1956
12	2	10	52	26	162	104	58	1,598	980	1957
12	1	10	52	28	128	65	63	1,746	1,082	1958
10	- 1	11	54	29	91	23	68	1,877	1,151	1959
12	1	12	59	30	123	50	73	1,997	1,211	1960

Vie présumée:

Construction de bâtiments = 50 ans
Travaux de génie = 55 "
Machines et outillage = 22 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 50. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Chemicals, Constant 1949 Dollars, 1926 - 1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	7	2	6	295	220	2	- 6	9	189	90
1927	4	- 2	6	300	220	6	- 3	9	191	85
1928	2	- 4	6	303	217	4	- 5	9	194	81
1929	17	11	6	312	221	8	—	9	197	79
1930	5	- 2	6	322	225	6	- 3	9	201	77
1931	3	- 3	6	326	223	4	- 5	9	203	73
1932	1	- 5	6	328	219	2	- 7	9	199	67
1933	2	- 5	6	328	214	6	- 3	9	190	62
1934	4	- 2	6	331	210	3	- 5	8	175	58
1935	2	- 4	6	334	207	4	- 4	7	155	54
1936	1	- 6	7	335	202	4	- 2	6	139	51
1937	9	3	7	340	200	3	- 3	6	129	48
1938	5	- 2	7	346	201	5	—	5	119	46
1939	2	- 5	7	350	198	4	- 1	5	108	46
1940	3	- 4	7	352	193	6	2	4	98	46
1941	5	- 2	7	356	190	11	7	4	94	50
1942	8	1	7	362	190	6	1	4	95	54
1943	4	- 4	7	367	189	4	- 1	4	98	55
1944	2	- 5	7	370	184	2	- 2	4	98	53
1945	6	- 2	7	373	181	5	—	4	98	52
1946	15	8	8	383	184	10	6	5	102	55
1947	17	9	8	399	192	23	17	5	117	67
1948	16	8	8	414	201	29	22	6	141	86
1949	12	4	8	427	206	26	18	7	164	107
1950	7	- 2	9	435	207	18	9	8	181	121
1951	16	7	9	445	210	32	23	9	199	137
1952	48	39	9	476	233	66	55	11	241	176
1953	24	14	10	511	260	73	59	14	305	233
1954	12	1	10	526	268	20	4	16	348	264
1955	16	6	10	538	271	27	10	17	368	272
1956	41	30	11	564	289	64	45	19	409	299
1957	45	33	12	603	320	59	37	21	467	340
1958	29	17	12	636	346	50	27	24	518	372
1959	16	3	13	655	356	38	13	25	558	392
1960	23	10	13	666	362	49	22	27	598	410

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 22 "
Capital items charged to operating expenses = 5 "

TABLEAU 50. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, produits chimiques, en dollars constants de 1949, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
—	—	—	2	1	10	- 5	15	486	311	1926
1	—	—	3	1	11	- 4	15	494	306	1927
1	—	1	3	2	7	- 8	15	500	300	1928
1	1	1	4	2	27	11	16	512	302	1929
1	—	1	5	3	12	- 4	16	528	305	1930
1	—	1	6	3	8	- 8	17	534	299	1931
—	- 1	1	5	3	4	- 13	16	532	288	1932
—	- 1	1	5	2	8	- 8	16	523	278	1933
1	—	1	4	2	8	- 7	15	510	270	1934
1	—	1	4	2	6	- 8	14	492	262	1935
1	—	1	3	2	5	- 8	14	477	254	1936
1	—	1	3	2	13	—	13	472	250	1937
1	—	1	4	2	11	- 2	13	469	250	1938
1	—	1	4	2	6	- 6	12	461	245	1939
6	4	1	7	5	16	3	13	457	244	1940
9	6	3	13	10	25	11	14	463	250	1941
6	2	4	20	14	20	4	15	477	258	1942
3	- 1	5	24	14	11	- 6	16	488	258	1943
4	- 1	5	26	13	8	- 9	17	493	250	1944
6	—	6	28	12	16	- 1	17	498	245	1945
3	- 2	5	25	11	29	12	17	510	250	1946
4	—	4	21	10	44	26	17	537	269	1947
4	1	4	21	11	49	30	19	576	298	1948
4	—	4	22	11	42	22	20	613	324	1949
4	- 1	4	21	11	28	7	21	637	338	1950
5	1	4	21	11	53	31	22	666	358	1951
9	4	5	25	13	123	98	25	742	422	1952
10	4	6	29	17	107	77	30	845	510	1953
4	- 2	6	32	18	36	3	32	906	550	1954
5	- 2	6	32	16	48	14	34	938	559	1955
9	2	7	35	16	114	77	37	1,007	604	1956
9	1	7	36	18	112	72	40	1,106	679	1957
8	1	7	35	19	87	44	43	1,189	737	1958
7	—	7	36	19	61	16	45	1,249	767	1959
8	—	8	38	19	80	32	48	1,302	791	1960

Vie présumée:

Construction de bâtiments = 50 ans
Travaux de génie = 55 "
Machines et outillage = 22 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 51. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Chemicals, Constant 1957 Dollars, 1926 - 1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	11	2	8	428	320	3	- 9	12	271	128
1927	6	- 3	9	436	320	8	- 4	12	274	122
1928	3	- 6	9	440	316	6	- 7	13	278	116
1929	25	16	9	453	321	12	- 1	13	283	113
1930	7	- 2	9	468	328	9	- 4	13	288	110
1931	4	- 5	9	474	324	6	- 7	13	291	104
1932	2	- 8	9	476	318	3	- 10	13	286	96
1933	3	- 7	9	477	311	8	- 4	12	273	89
1934	6	- 3	10	481	306	4	- 7	11	251	83
1935	3	- 7	10	485	301	5	- 5	10	222	77
1936	1	- 8	10	487	294	6	- 4	9	200	73
1937	14	4	10	494	292	4	- 4	8	185	69
1938	7	- 3	10	504	292	7	—	8	170	66
1939	3	- 7	10	508	287	5	- 2	7	154	65
1940	5	- 5	10	511	281	9	3	6	141	66
1941	7	- 3	10	517	277	16	10	6	135	72
1942	12	1	10	526	276	8	2	6	137	78
1943	5	- 5	10	534	274	5	- 1	6	140	79
1944	3	- 8	10	537	268	3	- 4	6	140	76
1945	8	- 2	11	542	263	7	—	6	140	75
1946	22	12	11	557	267	15	8	7	147	79
1947	25	13	11	579	280	32	25	8	168	96
1948	23	11	12	602	292	41	32	9	202	124
1949	17	5	12	621	300	37	26	11	236	153
1950	10	- 2	12	633	301	25	13	12	260	173
1951	23	11	13	647	305	46	33	13	286	196
1952	70	57	14	692	339	95	79	16	346	252
1953	35	21	14	742	378	105	85	20	438	334
1954	17	2	15	765	389	28	6	23	500	379
1955	23	8	15	782	394	38	14	24	528	390
1956	60	44	16	819	420	92	65	27	587	429
1957	66	48	17	876	466	84	54	30	670	488
1958	43	24	18	924	502	72	38	34	743	534
1959	24	5	19	952	517	54	18	36	801	563
1960	34	15	19	968	527	71	32	39	858	588

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 22 "
Capital items charged to operating expenses = 5 "

TABLEAU 51. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, produits chimiques, en dollars constants de 1957, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
1	—	1	4	2	14	- 7	21	703	450	1926
1	1	1	4	2	15	- 6	22	714	444	1927
1	—	1	4	2	10	- 12	22	722	435	1928
2	1	1	5	3	39	16	23	741	437	1929
2	1	1	7	4	18	- 6	24	764	442	1930
1	—	2	8	4	12	- 12	24	773	433	1931
1	- 1	2	8	4	5	- 18	24	770	418	1932
1	- 1	1	7	3	11	- 12	23	757	402	1933
1	—	1	6	2	12	- 10	22	738	392	1934
1	—	1	5	2	9	- 12	21	713	381	1935
1	—	1	5	2	8	- 12	20	691	369	1936
1	—	1	5	3	19	—	19	683	363	1937
2	1	1	6	3	16	- 2	19	680	362	1938
1	—	1	6	3	9	- 9	18	669	356	1939
8	6	2	10	6	22	4	18	662	353	1940
12	8	4	19	14	36	16	20	671	363	1941
9	3	6	29	20	28	6	22	691	374	1942
5	- 2	7	34	20	15	- 8	24	707	373	1943
6	- 2	8	38	18	11	- 13	24	715	362	1944
8	—	8	40	17	23	- 2	25	722	355	1945
4	- 3	7	35	16	42	17	25	739	362	1946
6	—	6	30	15	63	38	25	778	390	1947
7	1	6	30	15	71	44	27	834	431	1948
6	—	6	32	16	61	32	29	888	469	1949
5	- 1	6	30	15	40	10	30	923	490	1950
8	2	6	31	16	77	45	32	964	517	1951
13	6	7	36	19	178	141	36	1,073	610	1952
14	5	8	42	25	154	111	43	1,222	736	1953
6	- 3	9	46	26	52	5	47	1,311	794	1954
7	- 2	9	47	23	69	20	49	1,356	807	1955
12	2	10	50	24	164	111	53	1,456	873	1956
12	2	10	52	26	162	104	58	1,598	980	1957
11	1	10	51	27	126	64	62	1,718	1,064	1958
10	- 1	10	51	27	88	22	65	1,804	1,107	1959
11	—	11	55	27	116	47	69	1,881	1,142	1960

Vie présumée:

Construction de bâtiments = 50 ans
Travaux de génie = 55 "
Machines et outillage = 22 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 52. Estimates of Fixed Capital, Flows and Mid-year Stocks, Manufacturing, Chemicals, Original Cost Dollars, 1926 - 1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	5	2	3	132	102	1	- 3	4	87	46
1927	3	—	3	135	103	4	—	4	89	44
1928	1	- 2	3	136	102	2	- 2	4	91	43
1929	11	8	3	142	105	5	1	4	94	43
1930	3	—	3	149	109	3	- 1	4	97	43
1931	2	- 1	3	152	109	2	- 2	4	99	41
1932	1	- 2	3	153	107	1	- 3	4	98	38
1933	1	- 2	3	153	105	3	- 1	4	96	36
1934	2	- 1	3	155	103	2	- 2	4	91	34
1935	1	- 2	3	156	102	2	- 2	4	85	32
1936	—	- 3	3	157	100	3	- 1	4	80	30
1937	5	2	3	160	100	2	- 2	4	77	29
1938	3	—	3	164	101	3	—	3	74	28
1939	1	- 2	3	166	99	2	- 1	3	68	28
1940	2	- 1	3	167	98	5	2	3	62	28
1941	3	—	3	170	97	9	6	3	60	32
1942	5	2	3	174	98	5	2	3	61	36
1943	3	- 1	4	178	98	3	—	3	63	37
1944	2	- 2	4	180	96	2	- 1	3	64	37
1945	4	—	4	182	96	4	1	3	64	36
1946	12	8	4	190	100	8	5	3	68	39
1947	14	10	4	203	109	20	16	4	81	49
1948	15	11	4	217	120	27	22	5	103	68
1949	11	7	4	230	129	26	20	6	127	89
1950	8	3	5	240	134	19	12	7	146	106
1951	19	14	5	252	142	39	31	8	171	127
1952	62	56	6	292	177	80	70	10	226	177
1953	32	25	7	338	217	90	76	14	308	250
1954	15	8	7	361	234	24	8	16	364	292
1955	22	14	8	379	245	35	17	18	391	305
1956	58	50	8	418	277	87	67	20	450	347
1957	65	56	9	478	330	84	60	24	534	410
1958	43	33	10	531	374	74	46	28	610	463
1959	25	14	11	563	397	57	26	31	673	499
1960	37	25	12	591	416	74	41	33	736	532

Assumed Life:

Building construction = 50 years
Engineering construction = 55 "
Machinery and equipment = 22 "
Capital items charged to operating expenses = 5 "

TABLEAU 52. Estimations de capital fixe, flux et stocks de mi-année, secteur de la fabrication, produits chimiques, en coûts initiaux, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
—	—	—	2	1	6	– 1	7	220	148	1926
—	—	—	2	1	7	—	7	225	148	1927
—	—	—	2	1	4	– 3	7	230	146	1928
—	—	—	2	1	17	9	8	239	149	1929
1	—	1	3	2	7	– 1	8	249	154	1930
1	—	1	3	2	4	– 4	8	254	152	1931
1	—	1	3	2	2	– 6	8	254	147	1932
1	—	1	3	1	4	– 4	8	252	142	1933
—	—	—	2	1	5	– 3	8	248	138	1934
—	—	—	2	1	3	– 4	7	243	135	1935
—	—	—	2	1	3	– 4	7	239	131	1936
—	—	—	2	1	8	1	7	239	129	1937
—	—	—	2	1	7	—	7	240	130	1938
—	—	—	3	2	4	– 3	7	237	128	1939
4	3	1	5	3	11	4	7	234	129	1940
7	5	2	10	8	19	11	8	239	136	1941
5	2	3	15	10	15	6	9	250	144	1942
3	– 1	4	18	11	8	– 2	10	259	146	1943
3	– 1	4	20	10	6	– 4	10	264	143	1944
4	—	4	22	10	12	1	11	268	142	1945
2	– 2	4	20	9	22	11	11	278	148	1946
3	—	3	17	8	37	26	11	301	166	1947
4	1	3	17	9	46	34	12	337	197	1948
5	1	4	19	10	42	28	14	376	228	1949
4	—	4	19	10	30	15	15	405	250	1950
6	2	4	21	12	64	47	17	444	281	1951
10	5	5	27	15	151	130	21	544	370	1952
12	5	7	34	20	134	107	27	680	488	1953
6	– 2	8	38	22	45	14	31	763	548	1954
7	– 1	8	40	20	63	30	33	810	570	1955
12	3	9	44	21	156	119	37	911	645	1956
12	3	9	47	24	162	119	43	1,059	764	1957
12	2	10	48	26	128	80	48	1,189	864	1958
10	—	10	50	27	92	40	52	1,287	923	1959
12	1	11	55	28	122	66	56	1,382	976	1960

Vie présumée:

Construction de bâtiments	= 50 ans
Travaux de génie	= 55 "
Machines et outillage	= 22 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 53. Estimates of Fixed Capital, Flows and Mid-year Stocks, Miscellaneous Manufacturing, Current Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	1	—	1	22	12	1	—	1	18	8
1927	2	1	1	23	13	1	—	1	17	8
1928	3	2	1	25	14	1	—	1	16	8
1929	3	2	1	29	17	1	—	1	16	8
1930	2	1	1	30	18	1	—	1	14	7
1931	1	—	1	29	17	1	—	1	12	7
1932	—	—	1	27	16	—	—	1	12	6
1933	—	—	1	26	15	—	- 1	1	12	5
1934	—	—	1	26	14	—	- 1	1	12	5
1935	—	—	1	27	14	1	—	1	12	5
1936	1	—	1	27	14	1	—	1	12	5
1937	1	—	1	29	15	1	—	1	13	5
1938	1	—	1	30	15	1	—	1	12	5
1939	1	—	1	30	15	1	—	1	12	5
1940	2	—	1	30	15	1	—	1	13	6
1941	2	1	1	33	17	2	1	1	14	7
1942	3	2	1	36	19	2	1	1	15	8
1943	2	1	1	38	22	1	—	1	15	9
1944	1	—	1	39	22	1	—	1	15	9
1945	2	—	1	40	23	2	—	1	15	9
1946	3	1	1	43	25	3	2	1	16	9
1947	2	1	2	50	29	3	2	2	20	12
1948	3	1	2	57	33	4	2	2	25	15
1949	2	—	2	62	35	4	1	2	30	18
1950	2	—	2	67	37	4	1	3	35	21
1951	3	—	3	78	42	4	1	3	41	24
1952	5	2	3	86	46	4	1	3	44	25
1953	4	1	3	92	49	5	1	4	47	27
1954	3	—	3	92	49	4	1	4	50	28
1955	4	—	3	96	50	7	3	4	54	31
1956	4	—	3	102	53	9	4	5	63	36
1957	7	3	4	108	57	8	3	6	73	41
1958	3	- 1	4	108	59	9	3	6	82	46
1959	6	2	4	109	61	10	4	7	89	50
1960	6	3	4	113	65	12	5	8	97	56

Assumed Life:

Building construction = 30 years
Engineering construction = 35 "
Machinery and equipment = 13 "
Capital items charged to operating expenses = 5 "

TABLEAU 53. Estimations de capital fixe, flux et stocks de mi-année, fabrications diverses, en dollars courants, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
—	—	—	2	1	2	—	2	42	21	1926
—	—	—	2	1	3	1	2	41	21	1927
—	—	—	2	1	4	2	2	43	23	1928
—	—	—	2	1	4	2	2	46	25	1929
—	—	—	1	1	3	1	2	44	26	1930
—	—	—	1	1	2	—	2	42	24	1931
—	—	—	1	—	1	- 1	2	41	23	1932
—	—	—	1	—	1	- 1	2	39	21	1933
—	—	—	1	—	1	- 1	2	40	20	1934
—	—	—	1	—	1	- 1	2	40	19	1935
—	—	—	1	—	2	—	2	40	19	1936
—	—	—	1	—	3	—	2	43	20	1937
—	—	—	1	—	2	—	2	42	21	1938
—	—	—	1	—	2	—	2	42	20	1939
1	1	—	2	1	4	2	2	44	22	1940
2	1	1	3	2	6	3	3	50	26	1941
2	1	1	4	3	6	3	3	55	30	1942
1	—	1	6	3	4	—	4	59	34	1943
1	—	1	6	3	4	—	4	60	34	1944
1	—	1	6	3	5	1	4	61	34	1945
1	—	1	6	3	6	2	4	65	37	1946
1	—	1	5	2	6	2	4	75	43	1947
1	—	1	5	2	7	2	5	88	51	1948
1	—	1	5	2	6	1	5	96	55	1949
1	—	1	4	2	7	1	6	106	60	1950
1	—	1	4	2	8	2	7	123	68	1951
1	—	1	4	2	10	2	7	133	73	1952
1	—	1	4	2	10	2	7	142	78	1953
1	—	1	4	2	8	—	8	146	79	1954
1	—	1	4	2	12	4	8	154	83	1955
1	—	1	5	2	14	4	9	170	92	1956
1	—	1	5	3	16	6	10	186	101	1957
1	—	1	6	3	13	2	11	196	108	1958
2	—	1	6	4	18	6	12	204	114	1959
2	—	2	7	4	20	8	13	217	125	1960

Vie présumée:

Construction de bâtiments = 30 ans
Travaux de génie = 35 "
Machines et outillage = 13 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 54. Estimates of Fixed Capital, Flows and Mid-year Stocks, Miscellaneous Manufacturing, Constant 1949 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	2	1	1	36	19	2	- 1	2	29	13
1927	3	2	1	38	20	2	—	2	27	12
1928	4	3	1	40	23	2	—	2	26	12
1929	4	3	1	44	26	2	—	2	25	12
1930	3	1	2	46	28	2	—	2	24	13
1931	2	—	2	48	28	1	—	2	23	12
1932	1	- 1	2	48	28	1	- 1	2	23	12
1933	1	- 1	2	48	27	1	- 1	2	23	11
1934	1	- 1	2	48	26	1	- 1	2	22	10
1935	1	- 1	2	48	25	1	- 1	2	22	9
1936	1	—	2	49	25	1	- 1	2	20	8
1937	2	1	2	50	25	2	—	2	19	8
1938	2	—	2	50	26	1	—	1	18	8
1939	1	—	2	51	25	1	—	1	18	8
1940	3	1	2	51	26	2	1	1	18	8
1941	3	2	2	52	27	2	1	1	18	9
1942	4	3	2	54	29	2	1	1	18	10
1943	3	1	2	55	31	1	—	1	18	10
1944	2	—	2	55	31	1	—	1	18	11
1945	2	—	2	55	31	2	1	1	19	11
1946	4	2	2	57	33	4	2	2	21	12
1947	3	1	2	58	34	4	2	2	24	14
1948	3	1	2	60	35	4	2	2	27	16
1949	2	—	2	62	35	4	1	2	30	18
1950	2	—	2	64	35	3	1	2	32	19
1951	2	—	2	66	36	4	1	3	34	20
1952	4	2	2	68	37	3	1	3	36	21
1953	3	—	2	70	38	4	1	3	38	22
1954	2	—	2	71	38	4	1	3	40	22
1955	3	—	2	72	38	6	2	3	42	24
1956	3	—	2	73	38	6	3	4	46	26
1957	5	2	2	74	39	6	2	4	51	29
1958	2	- 1	2	74	40	6	2	4	55	31
1959	4	2	2	72	40	7	2	4	59	33
1960	4	2	2	73	42	8	3	5	63	36

Assumed Life:

Building construction = 30 years
Engineering construction = 35 "
Machinery and equipment = 13 "
Capital items charged to operating expenses = 5 "

TABLEAU 54. Estimations de capital fixe, flux et stocks de mi-année, fabrications diverses, en dollars constants de 1949, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
–	–	–	2	1	4	–	4	68	34	1926
–	–	–	2	1	6	2	4	67	34	1927
–	–	–	2	1	7	3	4	69	36	1928
–	–	–	2	1	7	3	4	71	40	1929
–	–	–	2	1	5	2	4	72	42	1930
–	–	–	2	1	3	– 1	4	73	42	1931
–	–	–	2	1	2	– 2	4	73	41	1932
–	–	–	2	1	2	– 2	4	72	38	1933
–	–	–	2	1	2	– 2	4	72	36	1934
–	–	–	1	–	2	– 1	3	71	35	1935
–	–	–	1	–	3	– 1	3	70	34	1936
–	–	–	1	–	4	1	3	70	34	1937
–	–	–	1	1	3	–	3	70	34	1938
–	–	–	1	1	3	–	3	70	34	1939
2	1	–	2	1	6	3	4	71	35	1940
2	1	1	4	3	8	4	4	74	38	1941
2	1	1	6	4	9	4	4	78	43	1942
1	–	1	7	4	5	1	4	80	45	1943
1	–	2	8	4	4	–	5	80	46	1944
2	–	2	8	4	6	1	5	82	46	1945
1	– 1	2	7	3	8	3	5	85	48	1946
1	–	1	6	3	7	2	5	88	51	1947
1	–	1	5	2	8	2	5	92	53	1948
1	–	1	5	2	6	1	5	96	55	1949
1	–	1	4	2	6	1	5	100	56	1950
1	–	1	3	2	7	1	5	103	57	1951
1	–	1	3	2	8	2	6	107	59	1952
1	–	1	3	2	7	2	6	111	61	1953
1	–	1	3	2	6	–	6	114	62	1954
1	–	1	3	2	9	3	6	117	63	1955
1	–	1	3	2	10	3	7	122	66	1956
1	–	1	4	2	11	4	7	128	70	1957
1	–	1	4	2	9	1	7	133	73	1958
1	–	1	4	2	12	4	8	135	76	1959
1	–	1	5	2	13	5	8	140	80	1960

Vie présumée:

Construction de bâtiments = 30 ans
Travaux de génie = 35 "
Machines et outillage = 13 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

TABLE 55. Estimates of Fixed Capital, Flows and Mid-year Stocks, Miscellaneous Manufacturing, Constant 1957 Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	3	2	2	52	28	2	– 1	3	42	19
1927	4	3	2	54	30	3	–	3	39	18
1928	6	4	2	59	33	3	–	3	37	18
1929	6	4	2	63	38	3	–	3	36	18
1930	4	2	2	67	41	3	–	3	34	18
1931	2	–	2	69	41	2	– 1	3	34	18
1932	1	– 1	2	70	41	1	– 1	2	33	17
1933	1	– 1	2	70	39	1	– 2	2	32	15
1934	1	– 1	2	70	38	1	– 1	2	32	14
1935	1	– 1	2	70	37	2	– 1	2	31	13
1936	2	–	2	71	36	1	– 1	2	29	12
1937	3	1	2	72	37	2	–	2	27	11
1938	2	–	2	73	37	2	–	2	26	11
1939	2	– 1	2	74	37	2	–	2	25	11
1940	4	1	2	74	37	3	1	2	25	12
1941	5	2	2	76	39	4	2	2	26	13
1942	6	4	3	78	42	3	1	2	26	14
1943	4	1	3	80	45	2	–	2	26	15
1944	3	–	3	80	45	2	–	2	26	15
1945	3	1	3	80	46	3	1	2	27	16
1946	6	3	3	83	47	5	3	2	30	18
1947	4	1	3	85	49	6	3	3	34	20
1948	4	1	3	87	50	6	3	3	39	23
1949	3	–	3	90	51	5	2	3	43	26
1950	3	–	3	92	51	5	1	4	46	27
1951	4	–	3	95	52	5	2	4	49	29
1952	5	2	3	98	53	5	1	4	52	30
1953	4	1	3	101	55	6	2	4	55	31
1954	3	–	3	103	55	5	1	4	57	32
1955	4	1	4	104	55	8	3	5	60	34
1956	4	–	4	106	55	9	4	5	66	38
1957	7	3	4	108	57	8	3	6	73	41
1958	3	– 1	4	107	58	9	3	6	79	44
1959	6	2	4	105	58	10	4	6	85	48
1960	6	2	4	105	61	11	4	7	90	51

Assumed Life:

Building construction = 30 years
Engineering construction = 35 "
Machinery and equipment = 13 "
Capital items charged to operating expenses = 5 "

TABLEAU 55. Estimations de capital fixe, flux et stocks de mi-année, fabrications diverses, en dollars constants de 1957, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
–	–	1	4	2	6	–	6	98	48	1926
1	–	1	4	2	8	2	6	97	50	1927
1	–	1	4	2	10	4	6	100	53	1928
1	–	1	3	2	10	4	6	103	57	1929
1	–	1	3	2	8	2	6	105	60	1930
–	–	1	3	2	5	– 1	6	106	61	1931
–	–	1	3	2	2	– 3	5	106	59	1932
–	–	1	3	1	2	– 3	5	105	56	1933
–	–	–	2	1	2	– 3	5	104	53	1934
–	–	–	2	1	3	– 2	5	103	50	1935
–	–	–	2	1	4	– 1	5	101	49	1936
–	–	–	1	1	6	1	5	101	49	1937
–	–	–	2	1	5	–	5	101	49	1938
–	–	–	2	1	4	– 1	5	101	49	1939
3	2	1	3	2	9	4	5	102	51	1940
3	2	1	5	4	11	6	6	107	56	1941
3	1	2	8	5	13	6	6	112	62	1942
2	-	2	10	6	8	1	7	115	65	1943
2	–	2	11	5	6	–	7	116	66	1944
3	–	2	12	5	9	2	7	119	66	1945
1	– 1	2	11	5	12	5	7	123	70	1946
1	– 1	2	9	4	11	3	7	128	74	1947
1	–	2	8	3	11	4	7	133	77	1948
1	–	1	7	3	9	2	8	140	80	1949
1	–	1	6	2	9	1	8	144	81	1950
1	–	1	5	2	10	2	8	149	83	1951
1	–	1	4	2	11	3	8	155	85	1952
1	–	1	4	2	11	2	8	160	88	1953
1	–	1	4	2	9	–	9	164	89	1954
1	–	1	4	2	13	4	9	169	91	1955
1	–	1	5	3	14	4	10	177	96	1956
1	–	1	5	3	16	6	10	186	101	1957
1	–	1	6	3	13	2	11	192	105	1958
1	–	1	6	3	17	6	11	195	109	1959
2	–	1	7	4	19	7	12	202	116	1960

Vie présumée:

Construction de bâtiments	= 30 ans
Travaux de génie	= 35 "
Machines et outillage	= 13 "
Biens-capitaux imputés sur les dépenses d'exploitation	= 5 "

TABLE 56. Estimates of Fixed Capital, Flows and Mid-year Stocks, Miscellaneous Manufacturing, Original Cost Dollars, 1926-1960

Year	Construction — Building and engineering — Bâtiments et travaux de génie					Machinery and equipment — Machines et outillage				
	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe
	millions of dollars									
1926	1	1	—	15	9	1	—	1	16	8
1927	1	1	—	16	10	1	—	1	16	8
1928	3	2	1	19	12	1	—	1	16	8
1929	3	2	1	21	14	1	—	1	16	8
1930	2	1	1	23	16	1	—	1	15	8
1931	1	—	1	24	16	1	—	1	15	8
1932	1	—	1	25	16	—	- 1	1	14	7
1933	1	—	1	25	16	—	- 1	1	14	6
1934	1	—	1	25	15	—	- 1	1	14	6
1935	1	—	1	25	15	1	—	1	13	5
1936	1	—	1	26	15	1	—	1	12	5
1937	1	—	1	26	15	1	—	1	11	5
1938	1	—	1	27	15	1	—	1	11	5
1939	1	—	1	28	15	1	—	1	11	5
1940	2	1	1	28	15	2	1	1	11	5
1941	2	1	1	29	16	2	1	1	11	6
1942	3	2	1	31	18	2	1	1	12	7
1943	2	1	1	33	19	1	—	1	12	8
1944	1	—	1	33	20	1	—	1	12	8
1945	2	1	1	34	20	2	1	1	13	8
1946	3	2	1	36	21	3	2	1	15	9
1947	2	1	1	38	22	3	2	1	18	11
1948	2	1	1	40	24	4	2	2	21	13
1949	2	1	1	42	25	4	2	2	24	15
1950	2	1	1	44	26	4	2	2	27	17
1951	4	2	2	46	27	4	2	2	30	19
1952	5	3	2	49	29	5	2	3	33	20
1953	4	2	2	53	32	5	2	3	37	22
1954	3	1	2	55	33	4	1	3	40	24
1955	4	2	2	57	34	7	4	3	44	27
1956	4	2	2	60	36	9	5	4	50	31
1957	6	4	2	64	39	8	4	4	57	36
1958	2	—	2	66	42	9	4	5	65	40
1959	6	4	2	67	44	11	5	6	73	44
1960	6	4	2	71	48	12	6	6	81	50

Assumed Life:

Building construction = 30 years
Engineering construction = 35 "
Machinery and equipment = 13 "
Capital items charged to operating expenses = 5 "

TABLEAU 56. Estimations de capital fixe, flux et stocks de mi-année, fabrications diverses, en coûts initiaux, 1926-1960

Capital items charged to operating expenses — Biens-capitaux imputés sur les dépenses d'exploitation					Total					Année
Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	Gross fixed capital formation — Formation brute de capital fixe	Net fixed capital formation — Formation nette de capital fixe	Capital consumption allowances — Provisions pour consommation de capital	Gross stock of fixed capital — Stock brut de capital fixe	Net stock of fixed capital — Stock net de capital fixe	
en millions de dollars										
–	–	–	2	1	2	–	2	33	18	1926
–	–	–	2	1	3	1	2	34	19	1927
–	–	–	2	1	4	2	2	36	21	1928
–	–	–	2	1	4	2	2	38	23	1929
–	–	–	1	1	3	1	2	40	24	1930
–	–	–	1	1	2	–	2	41	25	1931
–	–	–	1	1	1	– 1	2	40	24	1932
–	–	–	1	–	1	– 1	2	40	22	1933
–	–	–	1	–	1	– 1	2	40	21	1934
–	–	–	1	–	1	– 1	2	39	20	1935
–	–	–	1	–	2	–	2	39	20	1936
–	–	–	1	–	3	1	2	38	20	1937
–	–	–	1	–	2	–	2	39	20	1938
–	–	–	1	–	2	–	2	39	20	1939
1	1	–	1	1	4	2	2	40	21	1940
1	1	–	3	2	5	3	2	43	24	1941
2	1	1	4	3	7	4	3	47	27	1942
1	–	1	5	3	4	1	3	50	30	1943
1	–	1	6	3	3	–	3	52	30	1944
1	–	1	6	3	4	1	3	54	31	1945
–	– 1	1	6	3	7	3	4	57	33	1946
1	–	1	5	2	7	3	4	60	36	1947
1	–	1	4	2	7	3	4	65	39	1948
1	–	1	4	2	6	2	4	70	42	1949
1	–	1	4	2	6	2	4	74	44	1950
1	–	1	3	2	8	4	4	79	47	1951
1	–	1	3	2	10	5	5	86	51	1952
1	–	1	3	2	9	4	5	93	56	1953
1	–	1	4	2	8	2	6	98	59	1954
1	–	1	4	2	12	6	6	105	63	1955
1	–	1	4	2	14	7	7	114	69	1956
1	–	1	5	3	17	9	8	126	77	1957
1	–	1	5	3	13	5	8	136	84	1958
1	–	1	6	3	18	9	9	146	91	1959
1	–	1	7	4	20	10	10	159	101	1960

Vie présumée:

Construction de bâtiments = 30 ans
Travaux de génie = 35 "
Machines et outillage = 13 "
Biens-capitaux imputés sur les dépenses d'exploitation = 5 "

APPENDIX I

A Formal Statement of the Perpetual Inventory Method

Let $I_n^{G_j}$ = Constant dollar gross fixed capital formation in industry j, in year n.

Let L = Average economic life of capital goods, expenditures on which, evaluated at some base period relative prices, make up the given constant dollar gross fixed capital formation.

Let $K_{en}^{G_j}$ = Constant dollar gross stock of capital in industry j, at end of year n.

Let CCA_n^j = Constant dollar capital consumption allowances in industry j, in year n.

Let $I_n^{N_j}$ = Constant dollar net fixed capital formation in industry j, in year n.

Let $K_{en}^{N_j}$ = Constant dollar net stock of capital in industry j, at end of year n.

Then

$$K_{eL}^{G_j} = \sum_{1}^{L} I_t^{G_j}$$

$$K_{e(L+1)}^{G_j} = \sum_{1}^{L+1} I_t^{G_j} - I_1^{G_j} = \sum_{2}^{L+1} I_t^{G_j} = \sum_{1}^{L} I_t^{G_j} + \left[I_{L+1}^{G_j} - I_1^{G_j} \right]$$

$$K_{e(L+2)}^{G_j} = \sum_{1}^{L+2} I_t^{G_j} - \sum_{1}^{2} I_t^{G_j} = \sum_{3}^{L+2} I_t^{G_j} = \sum_{2}^{L+1} I_t^{G_j} + \left[I_{L+2}^{G_j} - I_2^{G_j} \right]$$

i.e.

$$K_{en}^{G_j} = \sum_{1}^{n} I_t^{G_j} - \sum_{1}^{n-L} I_t^{G_j} = \sum_{n-L+1}^{n} I_t^{G_j} = \sum_{n-L}^{n-1} I_t^{G_j} + \left[I_n^{G_j} - I_{n-L}^{G_j} \right]$$

$$CCA_L^j = \frac{1}{2L} \left[K_{eL}^{G_j} + K_{e(L-1)}^{G_j} \right]$$

Such that

$$CCA_n^j = \frac{1}{2L} \left[K_{en}^{G_j} + K_{e(n-1)}^{G_j} \right]$$

Thus

$$I_L^{N_j} = I_L^{G_j} - CCA_L^j$$

and

$$I_n^{N_j} = I_n^{G_j} - CCA_n^{j\,[1]}$$

$$K_{eL}^{N_j} = \sum_1^L \left(I_t^{G_j} - CCA_t^j \right) = \sum_1^L I_t^{G_j} - \sum_1^L CCA_t^j = K_{eL}^{G_j} - \sum_1^L CCA_t^j$$

$$K_{e(L+1)}^{N_j} = \sum_1^{L+1} \left(I_t^{G_j} - CCA_t^j \right) = \sum_1^{L+1} I_t^{G_j} - \sum_1^{L+1} CCA_t^j = K_{e(L+1)}^{G_j} + I_1^{G_j} - \sum_1^{L+1} CCA_t^j$$

Therefore,

$$K_{en}^{N_j} = \sum_1^n \left(I_t^{G_j} - CCA_t^j \right) = \sum_1^n I_t^{G_j} - \sum_1^n CCA_t^j = K_{en}^{G_j} + \sum_1^{n-L} I_t^{G_j} - \sum_1^n CCA_t^{j\,[2]}$$

Given that the original price indexes used to derive the estimates of constant dollar gross fixed capital formation are indexes of yearly averages of quotations, it is assumed here that the indexes relate to the middle of each year. When the end-year stock estimates are adjusted to mid-year,

e.g.

$$K_{mt}^{G_j} = \frac{K_{et}^{G_j} + K_{e(t-1)}^{G_j}}{2},$$

---

[1] Hood and Scott in their study *Output Labour and Capital in the Canadian Economy*, for the Royal Commission on Canada's Economic Prospects take

$$CCA_n^j = \frac{1}{L} K_{e(n-1)}^{G_j}$$

Such that

$$I_n^{N_j} = I_n^{G_j} - \frac{1}{L} K_{e(n-1)}^{G_j}$$

whereas, in this report

$$I_n^{N_j} = I_n^{G_j} - \frac{1}{2L} \left[K_{en}^{G_j} + K_{e(n-1)}^{G_j} \right]$$

They state (p. 236)

"By convention, we subtract depreciation of one year from gross investment of the next year. If we did not adopt this convention, assets with a one year life would show each year zero net investment. Further, we would in effect be writing off assets in the year in which they are used, rather than writing them off in the year they are assumed to be completely worn out or out of use. The convention actually adopted has the effect of overstating net investment, and hence, overstating the net stock by one-half the amount invested in the average year of the preceeding L years."

Assume that investment is spread evenly over the year. The convention adopted in this report is, then, that the depreciation for the year t is the sum of ½ the depreciation charged against the gross stock recorded at the end of year t–1 plus ½ the depreciation charged against the gross stock recorded at the end of year t. This convention avoids the difficulty mentioned by Hood and Scott relating to assets with an average economic life of one year and, furthermore, under the assumption about the pattern of gross fixed capital formation over the year, results in neither an overstatement nor an understatement of net investment or the net stock in any year.

[2] It should be noted that, in year n, $\sum_1^n CCA_t^j$ will include all investment made up to the year n–L. Therefore, $\left(\sum_1^{n-L} I_t^{G_j} - \sum_1^n CCA_t^j \right)$ will record just the accumulated depreciation chargeable against $K_{en}^{G_j}$.

then the price indexes can be used to "inflate" the constant dollar estimates back to current year prices or dollars. The capital flow estimates (i.e., capital consumption allowances and net fixed capital formation in constant dollars, since they refer to flows over the year expressed in the average prices of some base year), can be "inflated" back to current year prices or dollars without further adjustment.

These constant and current dollar estimates can be summed over the components (e.g., plant and machinery and equipment) of the stock of an industry (e.g., Major Group) and over industries for larger aggregates (e.g., the Manufacturing Division).

The basic relationships underlying the "perpetual inventory" method can also be expressed in continuous form as follows:

$$K_n^{G_j} = \int_{n-L}^{n} I_t^{G_j} dt$$

$$CCA_n = \frac{1}{L} K_n^{G_j}$$

$$I_t^{N_j} = I_t^{G_j} - CCA_t$$

Such that

$$K_n^{N_j} = \int_1^n \left(I_t^{G_j} - CCA_t \right) dt = \int_1^n I_t^{G_j} dt - \int_1^n CCA_t dt = \int_1^{n-L} I_t^{G_j} dt + \int_{n-L}^{n} I_t^{G_j} dt - \int_1^n CCA_t dt$$

$$= K_n^{G_j} + \int_1^{n-L} I_t^{G_j} dt - \int_1^n CCA_t dt$$

Once again, $\int_1^n CCA_t dt$ will contain $\int_1^{n-L} I_t^{G_j} dt$, since, by assumption, such investment has been fully depreciated by the year n.

APPENDIX II

Linked Estimates of Constant 1949 Dollar Gross Fixed Capital Formation, Manufacturing, 1957 to 1960

It was indicated in Section III that, from time to time, it is necessary to change the price reference base of constant dollar aggregates. When the constant dollar series are changed (say) from a 1949 to a 1957 base, it is possible to extrapolate the constant 1949 dollar estimates forward on the basis of the constant 1957 dollar estimates. It was pointed out that such procedures give rise to adjustment entries so that the extrapolated constant 1949 dollar components add up to the extrapolated constant 1949 dollar aggregates.

This appendix provides interested users with the extrapolated constant 1949 dollar gross fixed capital formation components, aggregates and adjustment entries for the thirteen combined Major Groups in Manufacturing.

The link year is 1956 and the estimates here pertain to the years 1957 to 1960. As can be seen, the adjustment entries required are almost negligible.

TABLE 1. Total Gross Fixed Capital Formation

Year	(1) Extrapolated aggregate constant 1949 dollar estimates	(2) Extrapolated component constant 1949 dollar estimates	(3) Adjusting entry (1)-(2)
	millions of dollars		
Food and Beverages:			
1957	95	95	–
1958	100	99	+1
1959	102	102	–
1960	113	112	+1
Tobacco, Rubber and Leather Products:			
1957	23	23	–
1958	17	17	–
1959	18	18	–
1960	25	25	–
Textile Products:			
1957	32	33	-1
1958	19	19	–
1959	18	18	–
1960	19	19	–
Clothing:			
1957	10	10	–
1958	7	7	–
1959	10	10	–
1960	10	9	+1
Wood Products:			
1957	34	34	–
1958	26	26	–
1959	42	41	+1
1960	40	39	+1
Paper Products:			
1957	202	202	–
1958	97	97	–
1959	95	95	–
1960	118	118	–

TABLE 1. Total Gross Fixed Capital Formation – Concluded

Year	(1) Extrapolated aggregate constant 1949 dollar estimates	(2) Extrapolated component constant 1949 dollar estimates	(3) Adjusting entry (1)-(2)
	(millions of dollars)		
Printing, Publishing and Allied Industries:			
1957	31	30	+1
1958	25	25	–
1959	30	30	–
1960	21	21	–
Iron and Steel Products:			
1957	140	140	–
1958	97	97	–
1959	127	127	–
1960	146	146	–
Transportation Equipment:			
1957	49	49	–
1958	41	41	–
1959	49	49	–
1960	36	36	–
Non-ferrous Metal Products and Electrical Apparatus and Supplies:			
1957	143	143	–
1958	94	94	–
1959	68	68	–
1960	74	74	–
Non-metallic Mineral Products and Products of Petroleum and Coal:			
1957	152	151	+1
1958	130	130	–
1959	136	136	–
1960	90	90	–
Chemical Products:			
1957	112	112	–
1958	87	87	–
1959	61	61	–
1960	80	80	–
Miscellaneous Manufacturing Industries:			
1957	12	12	–
1958	9	9	–
1959	12	12	–
1960	13	13	–
Total Manufacturing:			
1957	1,034	1,034	–
1958	747	747	–
1959	765	765	–
1960	781	782	–1

APPENDIX III

A Select Bibliography on Capital and Wealth Measurement

T. Barna, "The replacement cost of fixed assets in British manufacturing industry in 1955", *Journal of the Royal Statistical Society*, Series A (General). Vol. 120, Part 1 (1957) pp. 1-36.

"Alternative methods of measuring capital", in *The Measurement of National Wealth*, eds. R. Goldsmith and C. Saunders, Income and Wealth Series VIII of the International Association for Research in Income and Wealth (London, Bowes and Bowes Ltd., 1959).

"On measuring capital", *The Theory of Capital*, eds. F.A. Lutz and D.C. Hague (London: Macmillan and Co. Ltd., 1961).

E.F. Denison, "Theoretical aspects of quality change, capital consumption and net capital formation", *Problems of Capital Formation: Concepts, Measurement, and Controlling Factors*, A report of the National Bureau of Economic Research (Princeton, Princeton University Press, 1957).

R.W. Goldsmith, "Measuring national wealth in a system of social accounting", *Studies in Income and Wealth*, Vol. 12, Proceedings of the Conference on Research in Income and Wealth (New York, National Bureau of Economic Research, 1950).

"A perpetual inventory of national wealth", in *Studies in Income and Wealth*, Vol. 14, Proceedings of the Conference on Research in Income and Wealth (New York, National Bureau of Economic Research, 1951).

"The growth of reproducible wealth of the United States of America from 1805 to 1950", in *Income and Wealth of the United States: Trends and Structure*, Income and Wealth Series II of the International Association for Research in Income and Wealth (Cambridge, Bowes and Bowes Ltd., 1952).

A Study of Saving in the United States (Princeton, Princeton University Press, 1955) Vols. 2 and 3.

The National Wealth of the United States in the Post-War Period, A Report of the National Bureau of Economic Research (Princeton, Princeton University Press 1962).

R.W. Goldsmith and R.E. Lipsey, *Studies in the National Balance Sheet of the United States*, A Study by the National Bureau of Economic Research (Princeton, Princeton University Press, 1963) Vol. I.

H.A.J. Green, *Aggregation in Economic Analysis: An Introductory Survey* (Princeton: Princeton University Press, 1964), Part IV.

T. Haavelmo, *A Study in the Theory of Investment* (Chicago, The University of Chicago Press, 1960) Part II.

J.W. Kendrick, ed., *Guidelines for the Improvement of Wealth Data and Estimates*, Report of the Wealth Inventory Planning Study (Washington: The George Washington University, 1964), Vols. I and II.

S. Kuznets, *Capital in the American Economy; Its Formation and Financing*, A Study by the National Bureau of Economic Research (Princeton, Princeton University Press, 1961).

P. Redfern, "Net investment in fixed assets in the United Kingdom, 1938-1953", *Journal of the Royal Statistical Society*, Series A (General), Vol. 118, Part II (1955) pp. 141 - 182.

J. Robinson, *The Accumulation of Capital* (London, Macmillan and Co. Ltd., 1956).

"Some problems of definition and measurement of capital", in *Collected Economic Papers*, Vol. II. (Oxford, Basil Blackwell, 1960).

R. and N. Ruggles, "The conceptual basis for the measurement of real capital stocks and services", in *Output, Input and Productivity Measurement*, A Study by the National Bureau of Economic Research (Princeton, Princeton University Press, 1961).

W.E.G. Salter, *Productivity and Technical Change* (Cambridge: At the University Press, 1960).

Wm. C. Hood and A. Scott, *Output, Labour and Capital in the Canadian Economy*, A Study for the Royal Commission on Canada's Economic Prospects (Hull, Queen's Printer 1957) esp. ch. 6 and appendix.

R.M. Solow, *Capital Theory and the Rate of Return* (Amsterdam, North-Holland Publishing Company, 1963).

A. Scott, "Canada's reproducible wealth", in *The Measurement of National Wealth*, eds. R. Goldsmith and C. Saunders, Income and Wealth Series VIII of the International Association for Research in Income and Wealth (London, Bowes and Bowes Ltd., 1959).